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CLINICAL MEDICINE

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DECEMBER 1941

VOLUME 48 NUMBER 12

GOOD NIGHT

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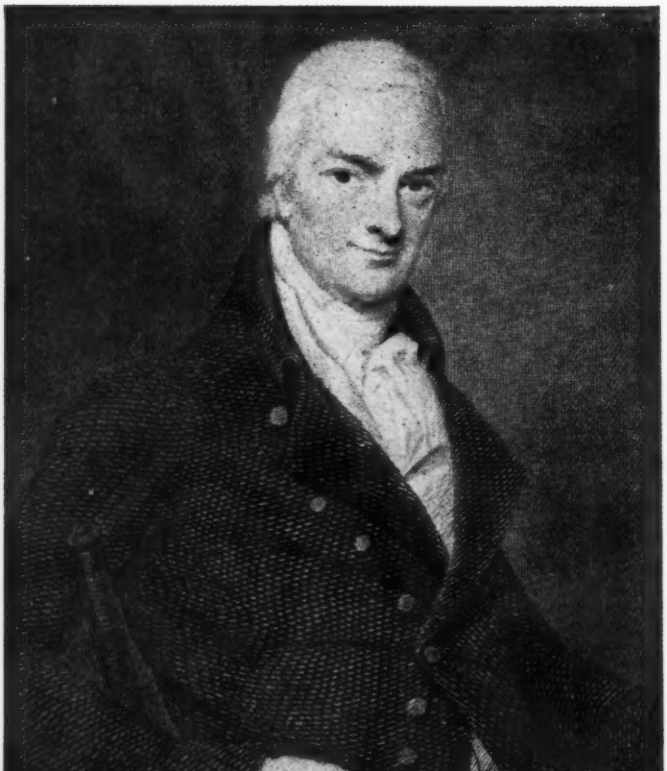

(Courtesy Medical Life)

DR. JOHN HAYGARTH

Volume 48 ★ Number 12
DECEMBER, 1941

Clinical Medicine

GEORGE B. LAKE, M.D., Editor

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★ Editorial ★

Dr. John Haygarth

Pioneer in Epidemiology

THE nature of epidemic diseases and the means to be adopted for their control now seem to us so simple and obvious that it is hard for us to imagine the difficulties encountered by the men who first had the temerity to attempt interference with the devastating march of the pestilences which many then regarded as manifestations of the "wrath of God," and as such wholly beyond human control; indeed, such interference was often considered to be sacrilegious.

Of course we think of Edward Jenner as being the great leader in this type of work, and that is quite natural, but in doing so we forget that long before he performed the first vaccination with cowpox virus, on May 14, 1796 (his first 23 cases were reported two years later), others had been trying to mitigate the terrible scourge of smallpox by the direct inoculation of the virus of that disease upon thoroughly healthy people, especially children, and achieving a good deal of success. Moreover, those who followed Jenner's lead had to be men of uncommon intestinal fortitude, for the idea was *revolutionary*, and innovators have always had a hard time.

One of the courageous men who undertook this work was Dr. John Haygarth, of Bath, England, who was born in 1740 (nine years earlier than Jenner).

Haygarth's interest in epidemic diseases must have developed rather early in his professional career, for in 1772, when such work was almost unique, he published a report of his studies of public health conditions and communicable diseases in Chester, England, following their courses by the death list, and two years later he described cases of typhus fever which he encountered in that city. In 1785 he exposed children to smallpox, as a means of immunization, and reported reasonably satisfactory results.

After Jenner's announcement, open-minded and farseeing physicians, in other countries as well as in his homeland, took up the work and carried it forward. Haygarth must have been one of the first in England to interest himself seriously in Jennerian vaccination, for when Dr. Benjamin Waterhouse, professor of medicine at Harvard University, performed the first such vaccinations in the United States (upon his own four children), in 1800, he obtained his virus from Haygarth.

Details of this interesting man's life are hard to come by, but we know that he lived to the good old age of 87 years, and it is further recorded that

when, in 1798, the notorious charlatan (or misguided enthusiast), Elisha Perkins, of Connecticut, was collecting fame and money as a healer of all sorts of diseases, at home and abroad, especially in England, with his "magnetic tractors," made of various metals, it was Dr. John Haygarth who made a similar looking apparatus out of wood, manipulated it in the same manner, and produced just as remarkable cures, thus demonstrating that Perkins was an imposter or a decidedly successful psychotherapist. At this distance in time it is hard to say which he was.

A look at Haygarth's face, as shown in our frontispiece, along with the fragments of his history that have been preserved for us, proves that he was the kind of man one would like to have known, for he must have been a person of courage, firmness, scholarship, kindly urbanity, and humor, which is a rare combination in any place and time.

A few centuries ago it was unsafe to be a thinker; now it is no longer safe to be unable to think.—MANLY P. HALL.

The Seminar Revives

THE splendid *Seminar* discussion in this issue suggests that this long-popular Department has achieved a new lease of life after its recent "sinking spell," but its vigor will not last without regular nutriment of fresh, practical problems and plenty of serious discussions.

We still believe that the *Seminar* can and should be one of the most instructive and valuable features of this magazine, if our readers will *use* it, regularly and sincerely, to record and develop their diagnostic and therapeutic acumen.

It is far better, for all concerned, to make an error in a case on paper than on an actual patient; and remember that the only medical men who dare to find fault with your suggestions are those who have never made a mistake—if there are any such among us.

Write *your* discussions of Problem No. 10 (November "C.M.," page 285) and of the Problem in this issue, *now*, and send them in *at once*. Also start searching your files for a good, *practical* case (not some excessively rare one or a "trick" case), and send it in as soon as you can get it written up, in *full detail* and in good English (not "Hospitalese"), so that we'll have plenty of material for our readers to work on as the months pass.

It takes nearly as much ability to know how to profit by good advice as to know how to act for one's self.—LA ROCHEFOCAULD.

Hearing Heart Sounds

IT IS no longer necessary for the busy physician, whose recollection of just how certain heart murmurs and arrhythmias sound is not so clear as it used to be, to spend days or weeks in refreshing his memory by listening to scores of hearts in a big general or cardiac clinic.

The remarkable set of phonograph records, recently prepared by the Columbia Recording Corporation (reviewed this month in the *New Books* section), under the direction of Dr. George D. Geckler, of New York, will enable any practitioner or medical student to hear, as often as he pleases and in his spare minutes, any or all of the abnormal heart sounds most commonly met in practice, just as he would hear them through his stethoscope, and thus familiarize himself with their characteristics, so that he will recognize them readily when he encounters them in his office or at the bedside.

This strikes us as one of the most notable recent advances in medical education, and we feel that it will be worth any active clinician's time to look (or listen) into it with some care. The abstract of Dr. Stine's talk before the Mississippi Valley Medical Society (reported in this issue) may well be considered in this connection.

Man should know. By knowing he should live. By living he should teach others how to live.—LORD VERULAM.

The Crime of Open-Mindedness

SOME 25 or 30 years ago, a worthy and well-doing English doctor by the name of Axham had his name stricken from the Medical Register by the General Medical Council, not for performing abortions or fake operations, nor for "dope" peddling, nor even for fee-splitting, but for the much more serious crime (in the eyes of the dictatorial "authorities") of open-mindedness.

It seems that a man by the name of Herbert Barker was creating a sensation in London (and apparently throwing a scare into the orthodox surgeons who were in the saddle) by treating (and *curing)* surgical cases by "manipulative methods" without operation. Dr. Axham was so "unethical" as to visit Barker's office, watch him treat a number of difficult cases successfully (but painfully, because he had no license to give anesthetics and the barbiturate drugs were still in the womb of the future), and say publicly that he thought the man had something that the orthodox doctors lacked. He even went so far as actually to *administer anesthetics* to some of Barker's patients and relieve their pain! *Of course* "They" had to throw him out! He was *different!* He had a mind of his own and insisted on *using* it in the service of humanity, instead of in that of the Holy Sacred Cow.

"They" couldn't throw Barker out, because (fortunately for him) he wasn't *in*, and he went right on curing people that the Elect had passed up until, in 1922, he was knighted, as a public benefactor, for doing the very work that, in Dr. Axham's case, had been declared "infamous" by the highest "authorities" in his profession.

A dozen or fifteen years ago the boldest and most original thinker in British medicine—perhaps

the greatest medical mind of this generation (J. E. R. McDonagh)—found the British Medical Association so hostile to him, because he was "different," that he resigned from it, before "They" threw him out.

"But it can't happen here," you say? *Wake up!* Listen to and read what is being said, by *our* "authorities," about men who are "different"—who do their own thinking, trust their own experience, and try to give their colleagues in the profession the benefit of the helpful things they have repeatedly *demonstrated*.

Such tactics do not involve *ethics* (which has to do with human character and motives, or that which is altruistic, rather than selfish, in intent) in the least, but are merely power politics that condemns, without investigation, all activities that have not its blessing.

Is it, and will it continue to be, as dangerous for a medical man to be open-minded, self-reliant, and helpful to his confreres as it is to be a hard-boiled crook? Think it over—if you dare — and tell us what *you* think and what can and should be done about it.

NEXT MONTH
(Medical Progress Number)

Dr. Walter C. Alvarez, of the Mayo Clinic, will discuss, in his usual pleasing style, the recent advances in gastro-enterologic practice.

Dr. Budd C. Corbus, Jr., of Chicago and Great Lakes, Ill., will outline the progress in urology during the past few years.

Eric Hardy, F.Z.S., of Liverpool, Eng., will mention some new and rather startling ideas on cancer.

Dr. George B. Lake, of Waukegan, Ill., will present his report of the recent meeting of the Interstate Postgraduate Medical Association.

COMING SOON

"Subcutaneous Implantation of Testosterone in Male Eunuchoidism: A Case Report," by Carlos P. Lamar, M.D., Miami, Fla.

"Vinethene Anesthesia," by Marvin L. Slate, M.D., High Point, N. C.

You must have your own opinions, but you need not make a fuss about them, and you have no right to try to force them upon other people.—BISHOP C. W. LEADBEATER.

Clinical Photography

ONE of the best features of the age or period of pictures in which we now find ourselves (and which is, by no means, an unmitigated good) is the use of these graphic representations of things and acts for teaching purposes, including instruction in those parts of the science and art of medicine which lend themselves to such methods of presentation.

Among the most popular and educational exhibits at the larger medical meetings (and some of the smaller ones) are the cinematographic records of the technics of various diagnostic and surgical procedures and of the dynamic symptoms of various diseases, which are now regularly shown in increasing numbers, and which compensate, in some degree, for the increasing tendency of many of the speakers to pad out their deficiencies as inspiring personal teachers by showing interminable series of lantern slides of charts and graphs, which scarce a hundred members of their audience can see.

But while these valuable uses of pictures have been freely available to institutions which have sufficient financial resources to purchase the rather complex and expensive apparatus for making them, and to hire trained technicians to use the apparatus, the progress of clinical photography among general practitioners and the smaller institutions has been practically negligible, not for lack of suitable and valuable material, but because of the expense of adequate photographic and lighting apparatus and the amount of time and technical proficiency required to use it satisfactorily.

Now, however, it is possible to purchase a simple and reliable equipment for doing first rate clinical photography, including a synchronized lighting system, at a price well within the reach of any successful clinician or small private hospital, and to have the films developed and the pictures or slides made, by ordinary commercial photographers, as simply and relatively inexpensively as our common snap-shots are handled. All that the doctor (or his assistant or nurse) needs to learn is how to pose the patient so as to show the points to be brought out, and how to expose the film.

With these devices it is even possible to photograph the cervix uteri, the interior of the mouth and throat or of the rectum, or any part that is accessible to a fair-sized speculum. With relatively inexpensive attachments, pictures of the fundus oculi and photomicrographs can be made, in black and white or in natural colors.

General practitioners and small hospitals, all over the country, are handling, every year, thousands of cases which, if properly recorded by photographs, would make immense additions to the sum of our available medical knowledge. It is to be hoped that these individuals and institutions will make full and complete use of these new facilities quite promptly, so that the pages of our medical journals and the sessions of the smaller medical societies may be enriched by large numbers of clear and instructive pictures.

★ Leading Articles ★

The Mississippi Valley Medical Society Meeting

Reported by GEORGE B. LAKE, M.D., Waukegan, Ill.

A MAJORITY of the physicians in the middle of our country will wake up, one of these days, to the fact that, right in their front yards (so to speak), there is an organization—the Mississippi Valley Medical Society—that will give them, in three days once a year, the equivalent of a two-week course in most of the postgraduate schools, at trifling expense. When the rush begins, the meetings may not be so *gemütlich* (there is no English word for it) as they are now, but there is still room for two or three hundred more *real students* with friendly hearts to come in with us, without making the affair a general survival of the fittest. There were only a few more than 300 at the Cedar Rapids, Iowa, meeting the first week in October, but the abstracts you'll be reading presently will give you an idea of the kind of "feast of reason" we had, to say nothing of the "flow of soul."

The *Mississippi Valley Medical Editors' Association* also held its first regular annual meeting on the evening of October 1, and twenty medical editors *and writers* sat down to a delightful dinner, stayed there for *five hours*, and hated to go even then. Several said it was the best medical get-together they ever took part in. Dr. Craig's paper, read and cordially discussed on that occasion, appears in this issue. A lot of medical writers (as well as editors) ought to get in with others of their own tribe and get the benefit of all this joy and profit next year.

The M.V.M.E.A. formally adopted a Constitution, one article of which reads like this:

> "The purpose of this Society shall be to bring into one organization all physicians in the Mississippi Valley who are members of the American Medical Association, and who are interested in medical journalism or medical writing, and any laymen who are connected with the editorial or business staffs of medical periodicals, so that, by interchange of views, they may secure such intelligent unity and harmony in every phase of their labor as will elevate and make effective the opinions of the medical profession in their respective communities."

The new officers elected were: President, Dr. Claude P. Dyer, St. Louis, Mo.; President-Elect, Dr. James Dunn, Davenport, Ia.; Vice-President, Dr. Elliott F. Parker, Moline, Ill.; Secretary-Treasurer (reelected), Dr. Harold Swanberg, Quincy, Ill.

The new officers of the M.V.M.S., and next year's meeting place, cannot be announced until after the meeting of the Board of Directors, which will take place after this story goes to press, but due notice will be given, later, in these pages. Dr. Everett P. Coleman, F.A.C.S., of Canton, Ill., was president at this meeting.

I can, however, report that the Mississippi Valley Medical Society Distinguished Service Award for 1941 went to Dr. Joseph B. De Lee, of Chicago, whose record is too well known, all over the country, to require any comments from me.

The annual $100 cash prize, gold medal, and certificate of award for the best unpublished essay was given to Dr. Robert B. Lewy, of Chicago, who read his winning paper, "Comparative Studies in Pain Control," at this meeting, but as it was highly statistical, it did not lend itself to abstracting. The entire essay will, however, appear in the January, 1942, issue of the *Mississippi Valley Medical Journal*.

The daily sessions, as usual, consisted of general assemblies, where we all got together to hear some outstanding speaker, alternating with special instruction courses, given by *real teachers* to small groups, of which three or four ran concurrently, so that everybody could choose the sort of instruction in which he was most interested.

DR. E. P. COLEMAN

A new feature (which proved so popular that it will probably be repeated) was a Clinico-Pathologic Conference, in which that erudite and clever internist, Dr. Leroy H. Sloan, professor of medicine, University of Illinois, was the *piece de resistance*.

Scientific Exhibit

The scientific exhibit was the largest and most interesting we have ever had. The first prize and bronze medal were awarded to Drs. Arkell M. Vaughn and Robert E. Lee, of Chicago, for their

well-planned and instructive presentation of "The Ambulatory Treatment of Varicose Veins and Ulcers," consisting of posters, photographs, legends, dissected cadaver specimens, and an excellent moving picture, in color, showing the technic of high ligation of the saphenous vein.

The second prize and bronze medal went to Dr. George B. Callahan, of Waukegan, Ill., for his showing of "Treatment of Burns with Cod-Liver Oil Ointment and Tissue Paper Dressings," illustrated with black-and-white and kodachrome photographs of actual cases, and a colored moving picture of the technic.

Dr. Callahan's method, which is excellent for use in the home and office, for smaller burns, as well as in the extensive hospital cases, is gentle, simple, and safe. He washes the burned area, carefully, with clean soapy water, and then with sterile water; debrides *with discretion* (not too radically, and *not* opening intact blisters); spreads on the cod-liver oil ointment (Patch's Gadoment in hot weather, and Abbott's C.-L. Oil Ointment in the winter), *not too thick*, with a sterile tongue blade; and covers the burned area with *one* thickness of Kleenex tissue. Of course he uses the regular supportive measures; morphine (for pain); tetanus antitoxin; a heated bed cradle, etc., when they are indicated. His results have been remarkably good.

Dr. Leon Unger, of Chicago, received the third prize and certificate of merit for his demonstration of "Allergy," using photographs; charts; mounted specimens of plants, pollens, and other antigens; microscopic demonstrations of molds, pollens, and eosinophilia; actual performance of skin tests; and still and moving kodachrome projections.

Drs. Willard O. Thompson and Norris J. Heckel, of Chicago, also had an interesting showing of "Clinical Applications of Sex Hormones," illustrated with large photographs (one of which is reproduced in Fig. 1) and photomicrographs demonstrating the appearance of sex-hormone-deficient men and women and the results of hormone treatment.

There were a number of other worthwhile exhibits, not so readily discussed in a story like this.

The commercial exhibit was also the largest we have ever had, and every exhibitor had something instructive and helpful to show to the men who were seeking knowledge, but only one thing, so far as I could observe, was presented that had not been shown previously at an important meeting: The *Leitz Clinical Photo-Electric Colormeter* (see Fig. 2), which takes all the guesswork out of all chemical color tests involving all shades of blue, yellow and red (and even measures turbidity), placing them on a mechanically objective basis. The value of such an instrument as this, to all who are doing any considerable amount of laboratory work, can hardly be estimated at present, but will obviously be very great.

Fig. 2: Leitz Photo-Electric Colorimeter.

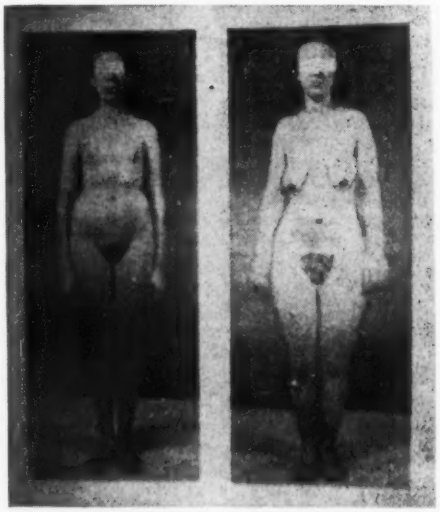

Fig. 1: *Left*—Woman with primary hypogonadism; *Right*—A normal woman; showing the effects of the lack of female sex hormone on the development of the skeleton and secondary sex characters. Note the long legs and arms of the woman at the left, as well as the deficient development of the breasts and pubic hair.

Here follow abstracts of some of the more important and generally helpful lectures and informal talks given at the general assemblies and special instruction courses.

MANAGEMENT OF CARDIAC EDEMA

By George C. Lee, B.S., M.D., Kansas City, Mo.
Cardiologist, Kansas City General Hospital

THE most important factor in cardiac edema is increased *venous* pressure (the normal is 8 *cm.* of *water*, at the *level of the heart*), caused by backing up from the right side of the heart. When this pressure reaches 17 cm. of water it slows the circulation in the capillaries, and then the oxygen content of the blood is lowered.

The normal protein content of the blood is 7 percent, and there is an osmotic pull towards the extravascular tissues. If this figure goes down to 5 percent, more fluid goes into the tissues and the coronary circulation and nutrition of the heart muscle are decreased.

The heart pumps from 6 to 10 quarts of blood a minute, according to the amount and severity of the exercise taken. Under extremely heavy labor it may go as high as 25 quarts a minute. This represents *a lot of work!*

Digitalis will eliminate edema, in many cases, but it is poor practice to force an overworked and

failing heart, with this drug, when there are others that will do the job better. The tissues should be *unloaded* before giving digitalis.

Tincture of digitalis is variable in strength and unreliable in action; and remember, when prescribing doses, that it takes 2.3 *drops* of it to make one *minim*. Moreover, digitalis begins to act *at the saturation point* (when the patient is *digitalized*). After that, the *maintenance* dose replaces what is lost daily.

In *severe* cases, give *Digalen intravenously*, 8 cat units (c.u.), followed, in 4 hours, by 4 c.u., and after another 4 hours, 4 more, *watching for toxic symptoms*. If the patient's condition permits, it is better to digitalize more slowly, giving 4 c.u. a day for 4 days, and then 1 c.u. a day. If the patient is in *serious distress*, give morphine so he can rest; if he is hypersensitive to digitalis, Urginin may be used instead, and will often take its place.

An early sign of a failing right heart is fluid *between the lobes of the lungs* or in the pleura. In the latter case, take a specimen of the fluid with a needle and test its *specific gravity*. If the fluid is of cardiac origin, the figure will be from 1.008 to 1.010; if nephritic, 1.015 or more, and in neither case will the fluid clot. If the exudate is caused by *inflammation*, the specific gravity will be higher and the fluid will clot.

Do not remove too much fluid by paracentesis, as this lowers the blood protein. The removal of from 100 to 300 cc. will give the patient relief.

To *unload* the heart, we must give diuretics. Those given by mouth (such as theocalcin, 7½ grains—0.5 Gm.—every 2 or 3 hours for several days) are not especially satisfactory. Mercurials are better, and sometimes the addition of theocalcin is helpful.

Salyrgan (and similar drugs) is best given intra*venously (not* under the skin), in 1 cc. doses, using a 25-gage needle and injecting *slowly*. If the veins are inaccessible, the muscles thin, and *the patient's abdomen is full of fluid*, put 2 cc. of Salyrgan in a 10 cc. syringe, using a larger and longer needle; insert the needle into the ascitic belly cavity; fill the syringe with peritoneal fluid, and reinject it.

Remember that theophyllin dilates the *glomeruli* and produces more secretion of urine; while Salyrgan *passes it out*, thus unloading the heart. If the first injection of Salyrgan does not produce results in a reasonable time, *give another*, of 2 cc., or even a *third*, which will sometimes produce an excellent effect. The administration of ammonium chloride before Salyrgan helps a little, but not much.

When giving Salyrgan, give 50 cc. of a 50-percent solution of *dextrose*, intravenously, on alternate days, to *feed the heart;* but do *not* give opiates, which seem to counteract its effect. Be on the watch for *chloride depletion* when removing edema rapidly. If cerebral symptoms appear, give physiologic salt solution intravenously. I have given Salyrgan to a patient, from once a week to once a month, for ten years, and then followed up with theocalcin.

The only contraindication to Salyrgan is *acute* nephritis. We need not worry about a low-grade *chronic* nephritis. It may be given safely when the specific gravity of the urine is as low as 1.003 or 1.005.

Reducing the salt in the diet does no positive good until the daily intake is below 1 gram, and this is almost impossible. Simply tell the patient not to add any *more* salt to the food on the tray. Do not reduce the fluid intake below 1 quart a day. Give a *substantial, well-balanced diet* (so as not to deplete the body proteins), divided into five or six *small* meals a day (a *heavy* meal may kill a cardiac patient).

Exercise should be taken in moderation, and *slowly*. A patient can safely *walk* ten blocks, who would be in grave danger if he *ran* one. *Coffee* should be used very sparingly; but *alcohol*, in moderate quantities, is often helpful. Moderate *smoking* may be permitted, but every patient should be watched carefully for unpleasant *individual effects*.

Heart patients *should* go to bed on the first signs of decompensation, and stay there for a while, but many of them won't. They will not *let* us treat them as well as we know how, so we must do the best we can. But heart patients get well (or, at least, better) when we least expect it. The heart will stand more abuse than any other organ in the body. I have seen a patient live for 17 years, after having two coronary episodes.

TREATMENT OF HIP FRACTURES

By James R. Elliott, A.B., M.D., Kansas City, Mo.
Associate in Surg., Univ. of Kansas

UNTIL rather recently, the medical profession had little to offer the patient with a fracture of the upper end of the femur except weeks or months of suffering in a cast or strait-jacketed with sandbags, a dubious prognosis for restoration of function, and possibly a lingering death for many of the elderly patients.

Today, with the use of the 3-flanged, cannulated, Smith-Petersen nail, driven in through the neck of the femur over a guide-wire (See Fig. 3), under roentgenologic control, and the occasional addition of a Thornton angle-iron, in *all* intertrochanteric fractures and where the cortex is thin, we can practically promise these patients a comfortable convalescence, solid bony union within 5 months, and a perfect functional result by the end of 18 months.

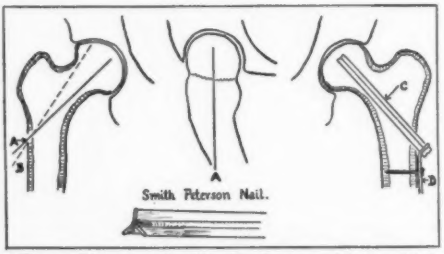

Fig. 3: Diagrams of nailing hip fractures (right and left, anteroposterior; center, lateral). A—guide wire in proper position; B—wire improperly placed; C—nail in position over guide wire; D—Thornton angle iron, which extends downward to take 2 or 3 screws.

I have nailed 84 hips, in patients from 19 to 84 years old (average age, 73 years), including 57 women and 27 men, and have had only one failure to obtain bony union and useful function (in a patient who got up too soon), and only 4 deaths from complications: One from pneumonia; one from cerebral embolus; one from diabetes; and one from *tetanus* (the only case of this disease following an *operative* wound that I ever heard of, and the only wound infection of any kind in my series).

All of the procedures are carried out under x-ray control, the casettes being placed in a tunnel under the table, so that the roentgenologist does not interfere with the sterile technic, and the films developed in a portable developing tank in the operat-

ing room, so that the results can be shown in 3 or 4 minutes. Two scrubbed-up assistants are required.

The fracture is first reduced by the Leadbetter method (if the fracture cannot be reduced, it cannot be nailed), and reduction verified by anteroposterior and lateral roentgenograms. Then an incision is made over the trochanter and a guidewire is introduced through the neck and into the head of the femur, preferably as close as possible to the cortex on the lower side of the neck (see Fig. 3). The position of the wire is ascertained by anteroposterior and lateral roentgenograms, and if it is wrong another wire is introduced, using the first as a guide and then removing it. When the wire is properly placed (not so deep as to go through the head) the hip can be rotated freely without fear of displacing the fragments.

Then notch the cortex, at the sides of the guide wire, where the flanges of the nail are to come, to keep it from splitting when the nail is driven home. The nail may be of stainless steel or vitalium (the latter type is more expensive and, apparently, no more satisfactory in use), and should rest against the lower cortex of the neck.

To show how firmly the fracture is held by the nail, one patient fell out of bed the night after the operation, and got back by himself without disturbing the fragments.

Light to moderate Buck's extension is applied as soon as the patient is returned to bed, and maintained for from 6 to 8 weeks, after which the patient can be up on crutches (he can sit up in bed to eat his breakfast the morning after operation). Unsupported weightbearing is safe at the end of six months, and frequently earlier than that. After a year or two, most patients are not conscious that they even had a hip fracture.

In most cases the nails are left in place permanently. I have removed them in only three cases, in young people.

This operation is now universally accepted by bone surgeons; can be performed satisfactorily by many operators all over the country; saves many lives; and avoids all the discomfort and other disadvantages of casts and sandbags.

WHAT IS NEUROTIC BEHAVIOR?

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DR. HARRINGTON

NEUROTIC behavior develops from an effort to (1) gain satisfaction; (2) express spite; and (3) attain security. About two-thirds of all the patients we see are more or less sick above the eyebrows; but not all those called neurotics really *are* so, being placed in that category as a result of an insufficient physical examination. Disturbed *interpersonal relationships* may be a *cause*, as well as a result, of "nervousness."

The chief trouble with the neurotic patient is *fear*—subjective or objective or both. Objective reactions of the autonomic nervous system and the endocrines to *objective perils* are perfectly normal; but the neurotic individual reacts to *all* of his environment *as if* objective peril were present continually. The subsurface Self, like a stage director, is silent but extremely active—*off the stage* (of consciousness).

The neurotic, or "unadjusted," person constantly feels *helpless* in the presence of a *dangerous world*, and must develop some device or tool to ward off danger and establish a sense of power over his surroundings (including, especially, the *people*). He *experiments* with various methods, which *always make things worse*.

Neurotic people are extraordinarily *dependent*, making *excessive* demands on others (they demand everything, and thus *lose* everything); *infallible;* and *inflated*. They feel that, if they can keep everyone about them under their thumbs, they will be in no danger. But the others react to such a situation adversely and defiantly, *inside*, and make matters worse for the neurotic one in *covert* ways.

If an aggressive person marries a submissive one, an unstable relationship develops, because the submissive partner may *blow up* some day, and then the basis of security is lost.

Neurotic behavior is *purposeful*, not silly. The hostility of these people is *reactive*. They are not really "hellcats" (though they may act that way), but sometimes are *perfectionists*—so "good" that they become harmful; not "mean," but *afraid*, down deep inside, and they *must escape*, in some way. Sometimes they are so excessively submissive that they are afraid to take chances by accepting promotion, and thus they become still more insecure. Someone has said: "The neurotic is one who *strives;* the psychotic, one who *has arrived*."

The *treatment* of a neurotic patient consists of helping him to *accept* his situation (if he cannot improve it) and *adjust* himself to it. He must be taught *deliberation* ("*priming the mind*" to alterations in plans) and *faith* ("The laws of Nature—God—are on your side"). He must "Learn to labor and to wait." (Neurotics *can't wait!*). If he can learn to follow Osler's "Way of Life" (briefly, "do *today's* job and forget tomorrow's"), he will do well.

HEART MURMURS

By Dan G. Stine, A.B., M.D., F.A.C.P.,
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THE optimistic physician will tend to minimize the importance of heart murmurs and reassure his patients. The pessimist will tend to overestimate their importance and to be overcautious in his prognosis, and will thus *make many cardiac neurotics*. I shall try to outline a method for evaluating abnormal heart sounds intelligently and without prejudice.

In studying a heart murmur, we must first *identify* it accurately, as to its type and the valve or valves affected. Then we must determine whether or not the heart is *functioning* normally. The practical question is, how much exercise will a heart with a murmur stand?

The heart has immense reserves, and can function with rather severe valvular stenoses, as can be shown by a simple experiment. Take three small, hollow rubber balls and cut a hole half an inch in diameter in one; a quarter-inch in the second; and in the third, as small a hole as possible that will leave a clear opening. Now compress the ball, immerse it in water, release it so that it fills,

and then withdraw it and compress it again to expel the water. The difference in the degree of force required to do this, between the first and the second ball, will scarcely be noticeable, but with the third ball will be definitely greater, though it can still be expelled without serious effort. Even patients with a regurgitant murmur will not often be seriously handicapped.

The heart muscle will last as long as the skeletal muscles, or even longer. Trouble develops only when the cardiac reserve has been depleted by *general disease* or local malnutrition.

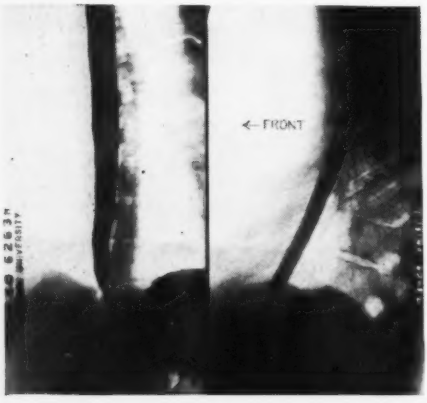

Fig. 4: Normal esophagograms (*Left*, antero-posterior; *Right*, lateral).

Mitral Murmurs

Ninety (90) percent of all heart murmurs are of mitral origin. The left heart maintains the body circulation and responds to stimuli by emotions and by drugs.

Most mitral lesions result from rheumatic diseases (not merely typical acute rheumatic fever), which thicken the leaflets of the valve and rounds their edges, thus causing *regurgitation*. Later, the leaflets fuse and contract, producing *stenosis*.

Many conditions besides mitral regurgitation (such as anemia, coronary disease, toxicoses, adhesive pericarditis, aortic regurgitation, etc.) will produce systolic murmurs.

In order to make a diagnosis of *mitral regurgitation*, we must find (1) the heart enlarged and (2) with an increase in its transverse diameter. But the left *auricle*, which makes up a considerable part of the heart's size, is posterior, so that it is difficult to determine the degree of its enlargement without making an **esophagogram.** This is accomplished by preparing a barium meal and making antero-posterior cardiac roentgenograms of the chest while the barium is passing through the esophagus. If the heart is enlarged, this tube will be noticeably bent or curved to the right and backward, as shown in Fig. 5.

The pathologists say that it would be better for us to speak of "mitral disease," since most cases show both regurgitation and stenosis; but there is a difference, clinically. Stenosis is much more common than regurgitation, but the latter diagnosis is made much oftener, because they are hard to differentiate.

In stenosis, 27 percent of the patients show no murmur; and in many more cases the murmur can be heard only with the patient in a special position or by means of special maneuvers. Lay the patient on his face and listen over the apex, with a broad chest piece, for a *rumble* before the first sound; or *strap* a large (2½ inch), flat bell on the chest, use 6-foot tubes on the stethoscope, and have him exercise *while you are listening*. Many of these murmurs disappear when the patient is at rest.

In order to make a diagnosis of *mitral stenosis*, 5 of the following 10 criteria must be present:

1.—A history of rheumatism.

2.—A sharp, snapping, ringing first sound.

3.—A *presystolic*, rumbling, roaring, grating murmur.

4.—An *abrupt* systolic sound, with a preceding *thrill* on *palpation*.

5.—A diminished second sound.

6.—Doubling or muffling of the *pulmonic second sound*.

7.—A *thrill*, felt at the apex.

8.—Tachycardia. (Look for mitral stenosis in *all* long-standing cases of tachycardia).

9.—An esophagram showing a dilated left auricle.

10.—Right ventricular preponderance, on the electrocardiogram.

Mitral disease is due chiefly to rheumatism; appears *early* in life; and is more common in women than in men. *Aortic* disease is due chiefly to syphilis; appears *late* in life; and is found in 8 men to one woman.

In *aortic regurgitation* due to rheumatism, the murmur is hard to hear and is often not recognized. The sequence of events is the same as with the mitral valve—first regurgitation; then stenosis.

If the disease is due to syphilis, there is great destruction of the valve and a tremendous regurgitation. The murmur fills all of diastole; is faint and blowing; and is transmitted to the left of the

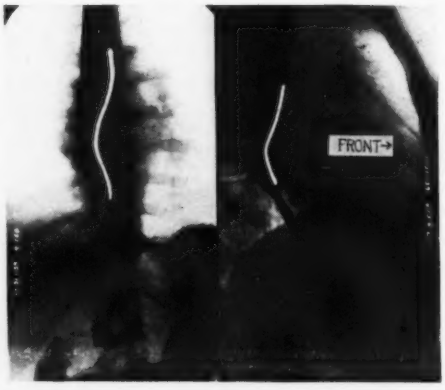

Fig. 5: Abnormal esophagograms (retouched), showing distortion of the esophagus by the enlarged heart (*Left*, antero-posterior; *Right*, lateral).

sternum, in the third, fourth, and fifth intercostal spaces, and to the apex. The intensity of the murmur is no index of the severity of the disease. The only reliable index is the *breadth of the heart;* the broader, the worse. In syphilis and arteriosclerosis the prognosis is always bad.

In *aortic stenosis* we find a *small* slow-filling, *low* pulse, and a thrill over the great vessels of the neck and shoulder. The murmur is sharp and grating and is transmitted the same as the thrill. The

second sound is absent or muffled (in *aortitis* the second sound is sharp and ringing).

Exercise and Heart Disease

How shall we regulate exercise in young people? It is a *disaster* to tell a young person that he (or she) has a permanent disability of the heart, for thousands of neurotics are made in this way every year. It is equally disastrous to permit a *real* heart cripple to be made worse by overexertion.

If the heart shadow on the roentgenogram is broad and the esophagram positive, the patient should *not* indulge in any major *competitive* sports, but may exercise *moderately* (golf, tennis *doubles*, dancing, etc.). If, after six months or so, the heart is broader and the esophagus niche in the gram deeper, *stop all unnecessary exertion;* if not, let him go ahead as he has been doing.

A formula has been worked out, by correlating the transverse diameter of the heart with the patient's height, weight, and age, to put this evaluation on an *objective* basis, like this: (Age × 0.1094) + (weight in pounds × 0.8179) — (height in inches × 0.1941) = normal transverse diameter of the heart, in millimeters.

As an example, in a person 20 years old, 72½ inches tall, and weighing 138 pounds, the figures would be 2.1880 + 112.8702 — 14.0722 = 100.98 mm. (10.098 cm.). In this particular patient, the actual transverse diameter of the heart, on the roentgenogram, was 10.5 cm.

If the breadth of the patient's heart exceeds this figure by more than 0.5 cm., there is definite cardiac damage. A man with such a heart *might* be able to run a mile; but if he tried to run two miles he might drop dead.

Mitral stenosis is a *contraindication to childbearing;* but some women get away with it, thus demonstrating the immense reserve power of the heart. However, *if a man has a heart murmur, defer him for military service.*

CLINICAL DIAGNOSIS OF OVARIAN TUMORS

By Walter Schiller, M.D., Chicago, Ill.
Director of Laboratories, Cook County Hosp.

DR. SCHILLER

MANY disorders of the genito-urinary organs of women must warn the surgeon to do *more* than he originally intends; but in *ovarian* diseases he should generally do *less* than he does. It is astonishing how many normal ovaries are removed, when we remember how rarely such a fate befalls the testicles. We must not take out ovaries unless it is *absolutely necessary*, and even then we should save parts of them if we can. If one opens the belly for an appendectomy and finds the appendix normal, it is a crime to take out an ovary to save one's face.

An ovarian *cyst* is *not* "cystoma," which is a *neoplasm*. A cyst grows larger, but *never becomes malignant*, and may disappear spontaneously.

In the ovary, we may find cysts arising from the Graafian follicle or from the corpus luteum.

A woman with a **follicular cyst** is generally between 30 and 40 years old, and she *will not menstruate* nor become pregnant. The largest follicular cysts are the size of walnuts, and they may be *recurrent* or *multiple* (cystic degeneration of the ovary). The uterine mucosa is thick but *inactive* (hyperplasia), and the organ feels normal on palpation.

The **corpus luteum cyst** is *solitary* and *not recurrent*, and occurs chiefly in younger women or after pregnancy. The woman does not menstruate, but the uterine mucosa is thick and *active* and bleeds profusely after two or three months. The uterus is somewhat enlarged and *soft*, and in the ovary one feels a solid node the size of a chestnut.

Do *not* remove the ovary because of a cyst of either type. Follicular cysts, up to 4 or 5, should be *opened;* or a V-shaped piece of the organ, containing the cyst-bearing section, may be removed, *saving all the ovarian tissue possible.* A corpus luteum cyst will frequently clear up after *squeezing* the ovary vigorously, by bimanual pressure, without operation.

In true ovarian tumor, (1) palpate for size and consistency; (2) study the *endocrine functions*—menstruation, etc.; and (3) make use of certain diagnostic "tricks," some of which I shall mention.

The ovary contains *specific tissue* and *connective tissue*, which is the same wherever it is found in the body. When this latter tissue is involved we have a **fibroma**, which usually occurs in women from 35 to 45 years old; causes *no endocrine disturbance;* and may be small and multiple or confluent, solitary, and large (the size of a man's fist). A fibroma has no cavity, contains no fluid, is poorly vascularized, and causes no bleeding. It is solid, hard, and heavy and *pulls* on the tissues, producing a *long pedicle*, which permits it to *move about*, damaging the peritoneum and causing *ascites* (which is clear and straw-colored), and sometimes, also, *hydrothorax (typical of ovarian fibroma).*

Granulosa-cell tumors may occur at *any age* and are benign at the start, but may become malignant. They are *unilateral* and average the size of a fist, but may be as large as a child's head. On palpation by rectum, they are solid, but soft and well vascularized.

These tumors cause *profound endocrine disturbances.* When they occur in young girls they cause precocious puberty *without menstruation.* I have seen well-developed secondary sex characters in a girl *8 months old.* When the tumor is removed, all these symptoms subside. In women of childbearing age they cause amenorrhea; and in the climacteric period, metrorrhagia.

Do not castrate preclimacteric women with granulosa-cell tumors, as these growths produce female sex hormone.

Arrhenoblastomas are not very rare, and present the same clinical signs as granulosa-cell tumors, plus a *masculinizing effect.* Women with these tumors lose their female sex characters. The texture and distribution of the body hair assume the male pattern; the body contours change; the voice deepens; and the clitoris may become as large as a fair-sized penis. Removal of the tumor causes reversal of all these signs, *except* that, if the tumor has existed for two or three years, the *larynx* seems to be permanently enlarged and the voice will not resume its feminine quality and pitch.

All of these signs of masculinity are *even more pronounced* in the presence of *hypernephroma* in the hilus of the ovary.

PREVENTION OF CORONARY DISEASE

By O. P. J. Falk, M.D., F.A.C.P., St. Louis, Mo.
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IN THE past ten years, coronary disease, in the general population, has increased 117 percent; *in physicians, 240 percent,* so any suggestions as to its prevention are well worth considering.

The underlying *organic causes* of coronary disease are now considered to be: lipemia (cholesterol); long-continued hypertension; associated metabolic diseases (diabetes, thyroid disease, etc.); gallstones; and atherosclerosis. Five men die of coronary episodes to one woman, unless we include women more than 70 years old and those who have longstanding hypertension. There seems to be nothing in the anatomy or habits of the two sexes to account for this discrepancy.

The importance of stress and strain in causing this disorder has probably been overestimated. Women are subjected to the pressures of life almost as frequently as men, but they are more apt to *release* their tensions by an emotional explosion. The preponderance of coronary trouble in men *may* be due to the greater *control* they exercise over their emotions.

The most striking *physiologic* difference between the two sexes is that women *clear their bodies of cholesterol* more rapidly and completely than men do. Coronary disorder may be a *metabolic* disease.

Stocky people, city dwellers, and *mental workers* are more subject to atherosclerosis than those in other classes. Why are *doctors* so especially susceptible to coronary disease? What factors in their way of life predispose to it? What can be done to mitigate these factors?

Those who do *muscular work* suffer *least* from these disorders. More city dwellers than country people use alcohol and tobacco excessively, and have a high pulse rate.

Pathogenesis: Tissue degeneration—a tendency to atherosclerosis—is basic in coronary disease. None of the lower animals have this trouble. Man, alone, eats more fats and more of the foods intended for *immature* animals (eggs and milk) *throughout life.* On the old-fashioned diabetic diet (high-fat and low-carbohydrate), 85 percent of the patients showed atherosclerosis; today, with the dietary preponderance reversed, only 35 percent show it.

Coronary disease is not the result of *one* factor, but of an *entire way of life,* including lessened physical exercise, overweight, anxiety states, and excessive use of tobacco. Alcohol, sensibly used, may be really helpful, as an *antidote to tobacco.* Thyroid extract, potassium iodide, and potassium sulfocyanate favor the excretion of cholesterol.

Factors in Mortality: A patient may have myocardial infarction without actual coronary occlusion; and if the occlusion comes on *gradually,* a *collateral circulation* may be developed that will cure the infarct.

A dose of *papaverine,* ½ grain (32 mg.), given *intravenously,* will sometimes stop a regional coronary spasm and save the patient. Moreover, morphine may be given intravenously, if the pain is agonizing. *Ventricular fibrillation* is often the actual cause of death in these cases. In older, arteriosclerotic patients, it is worth while to try the *routine* use of *quinidine.* If theophylline is given, during an episode, give it *intravenously.* After three or four days it may be given by mouth.

In 10 percent of cases, the cause of death is *pulmonary* thrombosis or embolism, coming from the *illiac veins,* especially in fat people who are kept at absolute rest in bed, particularly after operations. If, 24 hours after an operation, a patient will begin taking 15 *deep* breaths and flexing the legs actively (or having the nurse move the legs) twice a day, the femoral veins will be kept clear and there will be no pulmonary embolism. Post-infarction myocardial deficiency calls for *digitalis.*

OFFICE UROLOGY FOR THE GENERAL CLINICIAN

By Carl J. Uthoff, M.D., F.A.C.S., Oak Park, Ill.
Chief, Urologic Dept., Oak Park Hosp.

A SERIOUS mistake, for the physician who treats urologic cases in his office, is to give some sulfa drug for two weeks, and *then,* if the patient is no better, make an examination to find out what is wrong.

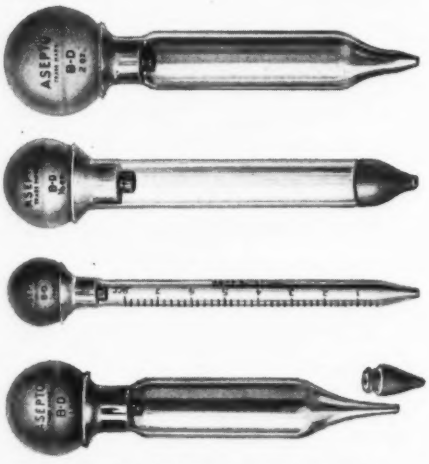

Fig. 6: Urethral Syringes of several types, for use in various conditions.
(Courtesy Becton, Dickinson & Co.)

The office should be *sound-proof,* so that there is *no possibility* that the highly intimate consultations with urologic patients can be heard in the waiting room. It is better to have two or three *small* treatment rooms than one large one, so that a patient can rest a few minutes after a treatment, while the physician is treating a second patient in another room; and also to make sure that there will be no space for relatives to stand around while a treatment is being given.

The office must be kept *scrupulously clean;* fresh linen should be used for *every* patient; and instruments should *never* be left lying about where they can be seen. The sink should be *porcelain,* as it is easiest to keep clean. Let the patient *see* you scrub up; and never *preach* at him.

The office urologist *must* have a microscope (which need not be of the most expensive type), and must learn the Gram-stain technic and *follow up* his cases by frequent examinations.

Sounds are a highly important part of the equipment, and the doctor should *learn how to use them* gently and skillfully, *before* he attempts to pass one on a private patient. Metal sounds should never be of less caliber than No. 20, French. If smaller ones are needed, use woven bougies or filiforms. If a *Coleman dilator* is to be employed,

let the *patient* manipulate it, as it is a *very powerful* instrument and may do serious damage if used incautiously.

Other special equipment for urologic work should include soft-rubber and woven catheters of assorted sizes; a Foley bag catheter (for retention); one or more *good* urethral syringes (see Fig. 6); a Valentine irrigator; and plenty of rubber gloves and *finger cots*.

Urethroscopy and cystoscopy are *specialistic* procedures, which should not be attempted by the general clinician unless he has had *ample* special training, so that he can recognize the *normal*, as well as pathologic appearances. He must, however, know when to *refer* patients for such examinations.

Examine the *genitalia* and *rectum* carefully, *before* the patient has urinated. A young man had been unsuccessfully treated for "enuresis" by two physicians who did not take this precaution. A superficial examination showed that he had *penoscrotal hypospodias*. Hematuria calls for a *complete* urologic survey.

If the urine is *alkaline*, remember that *B. protens* and *M. ureae* can produce *ammonia* by splitting urea. Test the urine with litmus paper, and if the alkaline reaction *fades on drying*, it is due to ammonia. In such cases, give sulfa drugs.

Sterility is a two-way affair, in which the man is to blame in 56 percent of the cases. If Huhner's test shows sperms in the cervical canal the man is not responsible. The best way to collect semen for examination is to have the man masturbate into a clean, wide-mouthed bottle, keep the specimen *cool*, and examine it within 3 hours. A normal ejaculate is from 2.5 to 4.0 cc., and contains about 100,000 sperms per cubic millimeter.

In *prostatic cancer*, diethyldihydrostilbestrol, 1 mg. by mouth three times a day, and 1 mg. in sesame oil, intramuscularly, once a week (partly to keep the patient coming in for observation), *stops or reduces the pain*, and *may* clear up the cancer. These patients must be watched closely, as this treatment may cause eunuchoidism.

Venous Thrombosis and Pulmonary Embolism

The Clinical Use of Heparin

By

ROBERT FRANKLIN IVES, M.D., F.A.C.P., Brooklyn, N. Y.

Thrombosis and embolism are common enough so that they are liable to occur, at any time, in the practice of any physician who does any surgery or midwifery —and the present standard treatment is far from satisfactory. Dr. Ives offers valuable suggestions.

THE conversion of fibrinogen to fibrin, according to Schmidt, is due to an enzyme-like substance called *thrombin*, not normally present in blood plasma, but whose properties are inherent in a substance termed *prothrombin*. It is agreed that a zymoplastic substance, later called *thrombokinase*, brings about the conversion of prothrombin to thrombin.

Tissues like brain, lung and muscle are rich in kinase, and also in blood platelets, which are often called *thrombocytes*.

Mechanical or chemical trauma releases the kinase at the site of the injury, thus providing the first prerequisite for coagulation. Apparently *Heparin* and kinase are antagonists, the Heparin keeping the kinase inactive.

Heparin is found in the lung, liver, and muscle, and it has been definitely proved that the real origin of Heparin is from the mast cells of Ehrlich, which are found in the connective tissue in the vicinity of all capillaries throughout the body, especially in the walls of the blood vessels themselves.

Predisposing Factors in Thrombosis and Embolism

Records of 1665 cases, following 172,888 operations, were studied* with regard to certain possible predisposing factors in the causation of thrombosis and embolism, which are here listed:

1. The risk of postoperative venous thrombosis and pulmonary embolism, as well as of clinically diagnosable postoperative thrombophlebitis, is somewhat higher in women than in men.

2. The youngest patient to have fatal pulmonary embolism was 20 years of age. Following abdominal hysterectomy and operations on the intestines, the incidence of these complications is definitely greater in patients 50 years of age or more than in those of less than 50 years.

3. In the group of 1665 cases, *diseases* most commonly present were: Cardiac diseases, blood diseases, peripheral vessel diseases, carcinoma, and severe infections. Cardiac diseases include definite hypertensive heart disease, coronary artery disease, and mitral stenosis with auricular fibrillation. Diseases of the veins include varicose veins of the legs and previous thrombophlebitis. Other diseases included are: Polycythemia vera, leukemia, primary anemia, hemolytic icterus, and thrombocytopenic purpura.

Operative Risks

1. *Abdominal hysterectomy*, with no predisposing factors, had only a 2-percent chance of postoperative complications; whereas patients who were definitely anemic or showed symptoms of the diseases mentioned would have a 9.3-percent possibility.

2. In those who had *diseases of the peripheral veins*, the incidence of embolism was high.

3. *Obesity* is a predisposing factor of importance. The risk is 4 percent in those weighing less than 200 pounds, and 8 percent in those weighing more than 200 pounds.

4. No one *anesthetic*, or combination of anesthetics, was noted as predisposing to thrombosis.

*Statistical studies by Drs. N. A. Barker, K. K. Nygaard, Waltman Walters, and J. T. Priestley, of the Mayo Foundation.

Location of Thrombosis: Relation of Thrombosis and Embolism

Analysis of the statistics in these 1665 cases showed that 405 (24.3 percent) had pulmonary embolism, of which 135 cases *were fatal* (33.3 percent mortality). At autopsy it was noted that the emboli found in the pulmonary arteries, appeared to have come from *large* veins (in 60 percent of the cases the original clot was in the short saphenous vein), and it was assumed that the entire thrombus was detached and became an embolus.

Thrombophlebitis was diagnosed in 938 cases. Postoperative venous thrombosis occurred *rarely* in the head, neck, and upper extremities, and more than 85 percent of the locations were in the lower extremities—*short saphenous* vein in 50 percent; *iliofemoral* in from 27 to 35 percent; twice as common in the left leg as in the right.

Most of the intra-abdominal venous thromboses were found in the *pelvic veins* in women, the *prostatic veins* in men, and in the *mesenteric, portal,* and *splenic veins.*

In a number of cases in which fatal embolism occurred from 6 to 32 days after the onset of thrombophlebitis, and in non-fatal pulmonary embolism, the embolus came from a fresh thrombosis in the *opposite* iliofemoral vein, and the old thrombus was intact and organized.

Thus it seems that fatal embolism rarely follows clinically diagnosed thrombosis. When it occurs within the first 4 to 6 days, it results from a fresh thrombus. Only 4.4 percent follow a clinical diagnosis of a thrombosing process earlier than 6 days postoperatively.

Postoperative venous thrombosis occurs in episodes, and there may be one or more episodes. If this occurs in a small vein, part or all of the thrombus may become detached soon after its formation, to become a small *(non-fatal)* embolus. If it is not detached, or only a part of it is detached, the *clinical signs and symptoms* of thrombophlebitis develop in the involved vein.

An episode may occur in which the thrombosis propagates into a larger, more proximal vein, with detachment of a large or fatal embolus; or by the development of thrombophlebitis in this vein; or by a small, non-fatal embolus and evident thrombophlebitis.

If the first episode of thrombosis occurs in a large vein, such as the iliofemoral, the first and only signs of its occurrence may be a sudden, fatal embolism. Thrombosis may occur in both legs simultaneously, or an episode may occur first in one leg and later in some other part of the body.

The Anti-Coagulant, Heparin

Heparin was discovered by Howell in 1916, who showed that it increased the coagulation time of the blood. It is probably a glycuronic acid derivative or condensation product, derived from ox liver, muscle, or lung. The Heparin of Connaught Laboratories, in Toronto, is made from ox lung, the yield being 1 gram per 100 pounds. A 10 cc. ampule, containing 1000 units per cc., at present costs about $5.00. The Roche-Organon product (called Liquaemin) was formerly marketed in 5-cc. vials, but is now available only in 10-cc. vials. Because of the doubling in volume, and also in concentration of the heparin, one 10 cc. vial is said to be equivalent to four of the former 5-cc. vials, and costs less, here, than the Toronto product.

Physiologic Action

In circulating blood, prothrombin, antithrombin, fibrinogen, and calcium ions are present. Heparin is the normal antithrombin, and is needed to maintain the blood in a fluid state.

In shed blood, a thromboplastic substance *(kinase* or *cephalin),* liberated from injured tissues or platelets, combines with and neutralizes the antithrombin (Heparin). The prothrombin then reacts with the calcium ions forming thrombin, which permits conversion of fibrinogen to fibrin.

Large amounts of purified Heparin or Liquaemin can enter the blood without injurious effects of any kind. A single intravenous injection is followed, within a few minutes, by a rapid rise in the clotting time. There is a short plateau curve, and then a less rapid descent.

In cases of thrombophlebitis occurring in varicose veins, or in bilateral thrombophlebitis, commonly known as phlegmasia alba dolens, Heparin has been of value, when used early. In cases of migrating thrombophlebitis, the acute recurrences subside rapidly.

Where one pulmonary infarction has occurred, it is *almost certain* that other thrombi are present in the venous system, ready to become detached and produce further embolisms. In such cases, the expense of using Heparin is warranted.

As far as is now known, Heparin will not *dissolve* a blood clot or a thrombus, either in a vein or artery.

If the bleeding has been fully stopped at the time of operation, Heparin will not start a hemorrhage. It is possible, however, that vessels which do not bleed when the patient is in shock, may bleed with a rising blood pressure. If such a vessel is bleeding, Heparin will cause it to bleed more than it would do otherwise. For these reasons, Heparin is not administered for from *4 to 24 hours following operation,* to allow the normal processes which control bleeding to operate.

The time thrombosis begins after operation is a matter of conjecture, but stases, changes in the composition of the blood, or eddying, in the patient under anesthesia, with a lowered blood pressure, or in shock, or in a cramped position on the operating table or bed, present conditions ideal for the initiation of the process of clot formation. It is well to realize the thrombus forms *slowly.*

Clinical Use of Heparin

The following Laboratory Data should be available: (1) Blood clotting time; (2) platelet count; (3) bleeding time; and (4) all the results of the usual routine blood studies.

Blood transfusion with Heparin: Heparin can be added to blood as it is transfused, in the proportion of 1 cc. (1,000 units) to 500 cc., without evil results.

Method of Use

At present, Heparin is administered most effectively as a *continuous intravenous injection,* if one desires to produce a prolonged and constant lengthening of the coagulation time of the blood.

Because of the expense, its routine use in all surgical cases is not feasible. For the present, it should be confined to *two main groups:* (1) Those who have manifested definite evidence of a non-

fatal pulmonary embolus; and (2) those patients who develop postoperative thrombophlebitis. The former is a larger group.

As recommended by Murray and Best, of Toronto, the coagulation time of the venous blood should be maintained at a level between 15 and 20 minutes. The amount of Heparin necessary to maintain this level varies considerably from one individual to another, and may be twice as much in one person as in another. Likewise, it may vary from time to time in the same patient. *For this reason, no standard dose or rate of administration can be set for all.*

Advocated Method: Continuous intravenous infusion (Liquaemin, the Roche-Organon Preparation, using the 10-cc. vials), in 5 percent dextrose or physiologic saline solution, delivered at the rate of from 20 to 25 drops per minute. The average dose is about 2,000 or 2,500 cc. of fluid in 24 hours.

Begin the infusion without Liquaemin, and as soon as it is proceeding properly, add three (3) 10-cc. vials (30 cc.) of Liquaemin per 2,000 cc. of solution.

Four hours after adding this initial amount of Liquaemin, determine the venous clotting time. If it is less than 15 minutes, add 5 cc. more of the Liquaemin per 2,000 cc. (Example: If 1,000 cc. of solution remain, add 2.5 cc. of Liquaemin). Repeat this procedure at four-hour intervals until a 15-minute clotting time is reached and maintained. A 16- or 18-gage, Lindemann type needle is recommended, but any intravenous needle of this size will do.

The average dose of the Toronto product, Heparin, consists of about two ampules (20 cc. or 20,000 units), in a liter of physiologic saline solution, administered at the rate of 20 to 25 drops per minute, or two liters in 24 hours.

The details of the administration of Heparin are not so cumbersome, but it must be watched carefully and the dose regulated accurately according to the coagulation time, which must not be allowed to increase suddenly or too rapidly. Plugging of the needle rarely occurs.

As the Heparin is continued for from 6 to 10 days, it is wise to increase the patient's activities somewhat in the later period. This may be accomplished if due care is exercised in inserting the needle and the arm is properly supported on a splint, or if a leg vein is used.

*Reported by Drs. Roy D. McClure and Conway R. Lam, Detroit, Michigan, in *J.A.M.A.*, May 25, 1940, p. 2085.

Experience in Heparin Administration*

About 2,000 units per hour are needed to keep the clotting time above 15 minutes.

The daily cost is about 10 to 15 dollars, which is no more than that of an extra special nurse.

Dr. McClure states that it is more convenient for the patient to have the needle placed in a vein in the leg, thus leaving both arms free for eating, reading, and personal care. They tape the needle firmly in place and seldom have to cut down. The leg is not splinted.

Later, when the patient is able to be out of bed, the needle may be placed in the forearm. A Heparin chart should be kept for every patient.

Comments

In a study at the Mayo Foundation, it was noted that 36 percent of the patients who had a fatal postoperative pulmonary embolus had had a previous non-fatal embolism. If Heparin could be administered to all these patients immediately after the initial embolism, and if it prevented further emboli in all cases, as it seems to do, it would prevent 33 percent of the postoperative deaths which now occur from pulmonary embolism.

Furthermore, as there are some patients (approximately 12 percent) who have repeated episodes of pulmonary embolism, none of which are fatal but which cause prolonged illness and hospitalization, these might be prevented by Heparin.

At the present time there seems to be little that can be done by the use of Heparin for the individual who has a sudden, massive, initially fatal pulmonary embolism, unless Heparin is administered routinely to all surgical patients, which does not seem feasible at present.

At the Mayo Clinic, the results in the treatment of patients who have had pulmonary embolism have been most gratifying. *There has been no case in which further evidence of embolism has occurred during the administration of Heparin.*

In the treatment of thrombophlebitis, it is thought that the *course of the disease is abbreviated* when Heparin is started promptly following its early recognition.

The clinical use of Heparin in the prevention and treatment of thrombosis and embolism is of recent origin and much remains to be learned regarding various aspects of its clinical application. Undoubtedly, in the future, its field of usefulness will be increased. While not an ideal agent, *it is of definite value.*

962 Ocean Ave.

DEMOCRACY AND BIRTH CONTROL

Despite the gains that have been made in the last quarter-century, the advocates of birth control have no right to be complacent. They know that there are still hundreds of thousands of mothers, who, because of their poverty and ignorance, lack adequate medical instruction in birth control knowledge. They know that, contrary to all our democratic principles, the major share of bearing the children of this nation is placed on the one-third of the nation least able to bear it.—MARGARET SANGER.

EARLY TRAINING

To train oneself, in small things, to meet the problems of life is the beginning of that power which, in the crises of life, will find the owner strong, able, and sufficient. Such training should be begun in childhood. Situations should be met by boys and girls without allowing them to expect the rescuing hand.—JESSE FEIRING WILLIAMS, M.D.

Management of Diabetic Patients*

By

HAROLD V. GOULD, M.D., Chicago, Ill.

The successful management of diabetic patients requires much patience and attention to details. Dr. Gould here states the basic principles as simply as possible, and several of his hospital confreres offer helpful specific comments, in their fields.

OUR FIRST objective in the management of diabetic patients is sufficient nourishment. The usual standard is from 20 to 40 calories per kilogram (2.21 pounds) of body weight. This has to be determined by the judgment of the physician, who must consider the age, occupation, and general temperament of the patient; also if the weight of the patient is much under or over his usual normal. Many people who are thin have to eat much more than heavy people in order to maintain their usual weight. A basal metabolic rate estimation is of value in many of these cases.

Our second objective is simplification of the character of the diet, which varies with age and weight and also with the presence of various diseases or surgical conditions.

Diet

The average diet of a normal man weighing 154 pounds, doing physical work, is about 400 Gm. of carbohydrate, 100 of protein, and 100 of fat, making a total of about 2,900 calories. Thus, more than half of the normal or usual diet is sugar-producing food.

It has been found that about 1 Gm. of protein to 1 Kg. of weight is sufficient for most people. This has to be increased in children and in some surgical conditions where body repair or growth is taking place. A man weighing 150 pounds would be safe with from 70 to 80 Gm. of protein.

The fats in the diet should be used to maintain weight and are safe if they do not exceed the carbohydrate intake or, at most, do not exceed it greatly.

The carbohydrates in the normal diet usually exceed the fats and protein combined, so in the diabetic diet they should have as high a ratio as is compatible with normal glycemia.

An individual of middle age or more has usually established certain habits of eating that are rather difficult to change for a long period of time, and maintain his continued cooperation.

Since the advent of insulin, and especially of protamine-zinc insulin, we should, as far as possible, conform to his usual diet with, of course, limitation of concentrated carbohydrates, excess fats, and protein, bringing up the volume with green vegetables or other things of low food content.

The breakfast and lunch may be more or less standardized, and should be written down, both as to character and approximate amounts, using ordinary, easily-obtainable foods if possible.

The dinner may require more instruction, but by using such terms as "serving," "portion," and "tablespoonful," specifying about the size of the serving of meat, and, in place of details in vegetables and fruits, specifying the group from which they may be taken, it will be much easier for the patient to cooperate.

The 5-percent vegetables may usually be taken in any amount desired, because their food value is small, the amounts eaten are usually not large, and the absorption is very uncertain.

Equivalents are also helpful in satisfying the patient. Assuming that a slice of white bread (30 Gm.) contains 16 Gm. of carbohydrates, 3 of protein, and no fat, some of the equivalents are: one small, cooked potato; or ½ cup of baked beans; or ⅓ cup of canned corn. Thirty (30) grams of any of the ordinary breads have approximately the same constituents.

Our third objective is to make the use of insulin as convenient as possible.

Insulin

Usually glycosuria occurs when the blood sugar is about 170 mg. per 100 cc. of blood, but it is best to check this with a few blood sugar estimations and urine examinations taken at the same time, because there may be wide variations that would mislead us.

If, on a diet that meets the requirements of the patient, glycosuria and hyperglycemia are present during most of the day, especially before breakfast, we should give insulin in sufficient amounts to control them.

With ordinary, moderate diabetes in adults, especially after 40 years of age, a moderate or small dose of insulin protamate, given some time before breakfast, is sufficient to control the urinary sugar, except, perhaps, for short periods of glycosuria two or three times a day, especially after breakfast, which may usually be disregarded. These periods of glycosuria are due to lack of sufficient physiologic insulin formed during the meal, which is highly variable and hard to estimate. We should remember that protamine-zinc insulin has a relatively low but even curve, usually for at least 24 hours, and that reactions may occur in the early morning. In these cases it is best for the patient to eat a little at bedtime. Reactions may occur also if there is diarrhea, vomiting, unusual exercise, or too long an interval between meals.

Ordinarily, if a patient maintains the weight that you think advisable, if he is satisfied with the amount and character of his diet, and if the urine is free from sugar before breakfast and usually at bedtime or before dinner, without much hyperglycemia, one may assume that the objectives of diabetic management have been accomplished.

Discussion

Marshall Field, M.D., Department of Obstetrics: Diabetes and pregnancy are seldom associated, but make a serious combination when they do thus occur. In Ravenswood Hospital we have had but one known diabetic patient in the delivery room in the past 11,110 deliveries. This rarity may have been due, to some extent, to inaccuracy of the records, but it is well known that the diabetic woman is usually sterile.

*Read at a staff scientific meeting, Ravenswood Hospital.

Diabetes, in a person of the age of the usual pregnant patient, is generally severe, and pregnancy causes its own metabolic disturbances. Therefore the dietary and insulin treatment must be handled quite accurately. The sugar tolerance often becomes less at about the fifth month of pregnancy.

Without insulin, from 10 to 25 percent of diabetic mothers die, but with our best modern medical and obstetric care the mortality should be no greater than in non-diabetics. Without insulin, about 25 percent of the babies of diabetic mothers die, and even with the best possible care we are still losing from 10 to 15 percent. Death of the diabetic mother is apt to result from acidosis, infection, or hypoglycemia, unless the patient is closely observed and the management well balanced. Death of the baby is due, most often, to hypoglycemia.

In addition to requiring more frequent office visits during the prenatal period, we should hospitalize the patient and examine the urine daily during the last month of pregnancy. During labor, the urine should be examined for sugar and acetone every 2 hours, and orange juice and insulin should be used as indicated.

The newborn infant should be given 5 cc. of 10-percent dextrose solution at birth, and Karo feeding should be started soon afterward. The dextrose should be repeated if the baby shows any twitchings or convulsions. The hypoglycemia usually lasts about 3 days.

Walter C. McKee, M.D., Department of Pediatrics: The lives of diabetic children were once estimated in days. After the advent of the Allen treatment, life expectancy was spoken of in months. With insulin, we may expect the diabetic child to live a normal, useful life.

In treating diabetes in children one encounters far more obstacles than in treating adults. The child must continue to grow and develop as other children do. He must be educated into a normal, productive citizen.

The average young diabetic patient learns his arithmetic at his mother's knee, in the form of grams, calories, and units. He is soon able, instinctively, to estimate these values far more accurately than most adults. He learns to administer his own insulin, in order to enjoy greater liberty at camp or school.

In the cases of the very young, weight and stature charts must be watched, the patients checked, and the diet changed often, to meet newly arising conditions. The protein allowance of a gram per kilogram of body weight is usually sufficient for the adult, but may often have to be multiplied two, three, or more times for the growing, active child.

F. R. von Nahowski, M.D., Department of Surgery: Before the use of insulin, the surgical mortality was very high in diabetic patients. Some figures give the mortality rate as above 50 percent. Surgery, in the diabetic individual, still carries a greater risk than in the non-diabetic. This risk, however, can be reduced by adequate pre-operative care, avoidance of general anesthesia, reduction of surgical trauma to a minimum, and careful post-operative management.

If a true surgical emergency exists, in a diabetic who exhibits no evidence of acidosis, a long period of pre-operative preparation is neither wise nor necessary. The patient is given from 20 to 40 units of insulin and from 1,000 to 2,000 cc. of physiologic saline solution, subcutaneously, and the operation is performed.

If, however, the patient shows evidence of acidosis, some pre-operative preparation is necessary, because acidosis greatly increases the risk in surgery. Such patients are given a rather large dose of insulin (usually from 1 to 2 units per kilogram of body weight) and from 1,000 to 2,000 cc. of physiologic saline solution, subcutaneously. In 6 hours the urine is examined again, and if acidosis is still present another dose of insulin (from ½ to 1 unit per kilogram of body weight) and more saline solution are given. As soon as the acidosis is controlled, the patient is operated upon.

In elective or non-emergency surgery, the patient should be put in the hospital for a period of two or more days, for pre-operative preparation. The objectives of this period of preparation are: (1) Control of acidosis and glycosuria; (2) building up of the glycogen store; (3) combating of dehydration; and (4) supplying adequate salts. All this can be accomplished by giving the patient a *weighed* diet, rather high in carbohydrate, with enough insulin to control acidosis and glycosuria and an abundance of fluid. Usually, after from 2 to 5 days, the patient is ready for surgery.

On the morning of the operation he receives neither breakfast nor insulin. Postoperatively, the diabetic patient receives insulin, the size of the dose depending upon his pre-operative requirements. In the individual who received no insulin pre-operatively, it is usually necessary to give insulin post-operatively. The urine is examined every 6 hours and, if sugar is present, insulin and physiologic saline solution are given, subcutaneously. As early as possible the patient is given oral feedings of fruit juices and other sweet drinks. The maintenance diet is then gradually resumed.

General anesthesia is to be avoided whenever possible in operating upon diabetic individuals, because it increases acidosis and is likely to cause postoperative nausea and vomiting. The anesthetics of choice are, in order of their safety: (1) Local; (2) spinal; (3) nitrous oxide and oxygen; (4) ethylene and oxygen; and (5) ether.

Among the surgical complications arising in diabetes, gangrene of the extremities should be considered first. If amputation is to be done in these individuals, it should be done early and high.

Carbuncle is another serious complication. It is not wise to incise or excise a carbuncle in diabetic individuals, because of the danger of septicemia. The patient should be given a weighed diet, sufficient insulin, and an abundance of fluid, and kept in bed. Locally, wet dressings of boric acid and 50-percent alcohol are kept constantly on the neck. When the central slough has softened, if no drainage appears, an opening can be made into the fluctuating area with a cautery knife.

Fractures occur in diabetics, as they do in other individuals, and it must be borne in mind that fracture, like all other trauma, increases the severity of diabetes. Therefore a diabetic individual with a fracture should be put on a weighed diet and observed in the hospital.

1214 Berwyn Ave.

Art and Science in Medical Writing*

By

PAUL E. CRAIG, Coffeyville, Kans.

DR. CRAIG

Too much of our medical writing consists of bald statements of fact, without grace of expression. Dr. Craig suggests that a little art will make it really literature.

MEDICAL literature is a special type of nonfiction writing, demanding the accurate presentation of scientific facts; but it can be made dramatic and interesting without detracting from its technical value.

The practice of medicine is a gigantic struggle between disease and suffering humanity, with a skilled physician playing the rôle of intercessor. Advancement in diagnosis and therapeutics and improvement in surgical technic are strengthening the barrier which science is raising between illhealth and its victims, and preventative medicine, our newest ally, is persistently launching counterattacks on man's oldest enemy.

With this situation in mind, medical writing need not be the flat cataloguing of scientific data, which reads about as interestingly as census reports, but may be made to live, through the element of suspense, without appearing sensational or spectacular. We have all, at times, been fascinated by the pleasing style of an author who may be dealing with a commonplace subject, or perhaps by a review of the current literature, and yet we pant laboriously through a really important contribution to medicine with but one thought in mind: to extricate ourselves from the maze of cumbersome detail and read the summary, hoping it will yield at least one gem of knowledge stripped of "scientific" embellishments.

This does not mean that the man engaged in fundamental research fails to enjoy articles which, in themselves, are highly technical. He does enjoy them, and there are journals devoted to his special line of work; but even "heavy" reading can be made pleasurable and entertaining by adding a touch of human interest. Doctor Oliver Wendell Holmes made anatomy (perhaps the driest subject in the medical curriculum) a course of fascinating instruction, by demonstrating its practicability in operative surgery.

While the perusal of ultra-scientific papers may prove a source of boredom to the busy clinician, he must acknowledge the preeminence of the laboratory in modern medicine, recalling that the practical application of productive experimentation is the very essence of scientific achievement; but even such communications can be "dressed up" a bit, by a little effort.

*Read before the Mississippi Valley Medical Editors' Association, October 1, 1941.

While medical writing admits of no established technic, nevertheless a certain pattern must be followed, in order to satisfy the reader's requirements: First, he must know *what* the writer is about to discuss. If it is a new drug, the history, chemical composition, method of preparation, and action should be briefly and clearly described, listing the advantages it possesses over kindred compounds, stating the indications and contraindications to its use, mentioning the recommended dosage, and answering the question *how* it may be used, with safety and effectiveness, in the reader's immediate practice.

Unlike newspaper writing, which asks the questions, What? When? and Where?, medical journalism must answer the questions What? When? and *How?*, with such completeness as to leave no room for doubt.

The same general form is applicable to surgical writing, which falls under five principal headings: First, diagnosis; second, surgical judgment (when to and when not to operate); third, preoperative preparation; fourth, operative technic; and fifth, postoperative treatment. Here the queries, of What? When? How? and *Why?* must be answered fully, usually with the aid of more or less elaborate illustrations.

Every manuscript deserving publication should contain an assembly of scientific material which is authoritative, accurate, and practical, couched in readable English and written as entertainingly as possible. The writer should have something worthwhile to present, and the text, if it deals with definitely clinical subjects, should be supplemented by a number of case reports, sufficiently large to warrant proper and satisfactory evaluation.

The treatment of any subject should be clear, concise, and exhaustive (as far as these two latter are compatible), and accompanied only by such illustrations and tabulations as are necessary to clarify matters in the reader's mind, for no author can hope to influence a reader when he, himself, is uncertain.

A satisfactory manuscript is prepared much in the manner of an artist sculpturing a figure of granite. The work is never accomplished in one sitting and the rough piece of stone gradually takes shape, finally to be fashioned into a thing of beauty by careful attention to detail. So with the writer who creates the first draft of his article and lays it aside for seasoning; then, by a process of rewriting, insertions, and deletions, he puts the finishing touches to the paper. This final step corresponds to the polishing and burnishing of the finished handiwork of the craftsman.

Irrelevant material in medical writing tends only to confuse the reader and, like long bibliographic references not pertinent to the article, takes up valuable space at no small cost to the publisher.

There is no secret formula for medical writing, nor any royal road to it. The writer's knowledge of his subject (the science involved) is the crude block of stone; his patient, sincere, joyous, and intelligent labor upon it, to shape it to the most pleasing, as well as the most practicable and serviceable form, is the art.

203½ W. 8th St.

A Living for the Doctor

The Business of Medicine and the Art of Living

The Christmas Tree

CHRISTMAS, as a Christian festival, by no means goes back to the actual birth of Jesus. In fact, the exact date of that tremendous event is not at all accurately settled, being placed, by various ancient and modern students, on days anywhere from November 17 to April 20, with an especial leaning to January 6.

As a matter of fact, in earliest Christian days, there was a strong effort to avoid the winter solstice, which was so closely associated with the festivities, often orgiastic in character, with which the pagan world had, from time immemorial, welcomed the beginning of the northward journey of the sun god, which would culminate in the summer solstice, six months later.

The earliest authentic reference to December 25 as the actual birthday of Our Lord was made in 354 A.D. From that time on, however, especially in the western parts of the Roman Empire, the day came gradually into general acceptance in this connection. But it was not celebrated as a definite festival until several centuries later.

Most of our Christmas legends and customs are of teutonic origin. In Britain, the 25th of December was a festival long before the conversion of the people to Christianity, and the preceding night was known by a word which meant "mothers' night." As to what mothers, there seems to be no record.

Santa Claus is doubtless a version of San Nicolaas, a well-known saint of the early Dutch settlers in England—the protector of children and bestower of gifts upon the needy. The yule-log (left over from the midwinter feast of Odin), so long a part of Christmas celebrations in Europe (though never strongly intrenched in the United States), appears to have come from Lithuania. The giving of presents at this season can be traced to the yule gifts of Northern Europe, though the Christmas *card* is a modern invention (1846).

The Christmas tree came to us from Germany, where they call it the *Tannenbaum;* while the use of holly and mistletoe is a pagan survival, these having been sacred emblems in pre-Christian times.

Christmas Eve is the appointed time for erecting and trimming the Christmas tree and placing the holly and "greens." The tree is commonly left standing until "twelfth night" or Epiphany (January 6).

The trimming and lighting of a Christmas tree is a beautiful old custom which seems, even in this mechanistic age, to be gaining, rather than losing, ground. But, too often, the spirit of joyous participation in this ceremony, by young and old, is being lost, and the gorgeously tinsel-hung evergreen sapling is more rarely used as a bearer of kindly gifts, whose bestowal originated in the *heart* of the giver.

It would seem that something very valuable and sweet might be gained if families, instead of "making whoopee" on Christmas eve, would come together, if only for that one night, in their own homes, and happily *unite* in the erection and dressing of the *Tannenbaum,* with songs and laughter and good will and an occasional thought of the occasion of the celebration; for it makes no difference, in the effect upon *us,* whether the infant Jesus actually saw the world's light on that or another day.

We have few enough sentimentalities in these days, God wot, and it would do us nothing but good if we could get back to the simple, open-hearted kindliness which used to characterize the Christmas season, forgetting, for a day or two, that we are hard-headed men and women of business and laying aside those pleasures which are pursued so relentlessly that they become a task. Not by these latter routes will we arrive at

A MERRY CHRISTMAS.

G. B. L.

Make a Blood Study

IN A mid-western city of 140,000 a filling station owner noted that he was tired and irritable. He consulted four physicians who instituted treatment after physical examinations and urinalyses. Despite injections of vitamin B, tonics, and other supportive treatment, he failed to gain strength. A fifth physician made a blood study, which revealed a hemoglobin percentage of 60 and a red

blood-cell count of 3,500,000. Subsequent injections of liver extract have restored this man to perfect health.

A number of older physicians have said that they can detect anemia of any severity by inspecting the palms, lips, and throat. In rebuttal is offered the case of a man who died two months ago of pernicious anemia. He had been seen by two physicians, at home, for marked weakness. Neither noted his pallor; and one ordered his infected teeth to be extracted, a procedure which resulted in severe bleeding. Yet this man's hemoglobin was only 20 percent, and his red cells numbered only 1,100,000.

His course was rapidly downhill, despite large daily injections of liver extract and several transfusions. The slides showed an aplastic anemia, terminal to the pernicious anemia which had been undiagnosed and untreated.

R. L. G.

★ *Notes and Abstracts* ★

Syringe Sterilization

SYRINGES, hypodermic needles, irrigating syringes, and catheters may be sterilized at one time. By using a pressure cooker, one avoids danger of cracking syringes, rusting needles, or making rubber bulbs or catheters sticky.

For ten dollars, one can purchase a pressure cooker which is just as efficient as the most expensive autoclave. The wrapping of the articles can be carried out, by your office girl, nurse, yourself, or wife, in 15 minutes daily.

Each syringe is wrapped with two needles, usually a 25-gage, ½-inch needle and a 23-gage, 1- or 1½-inch needle. Stylets are always placed in each needle.

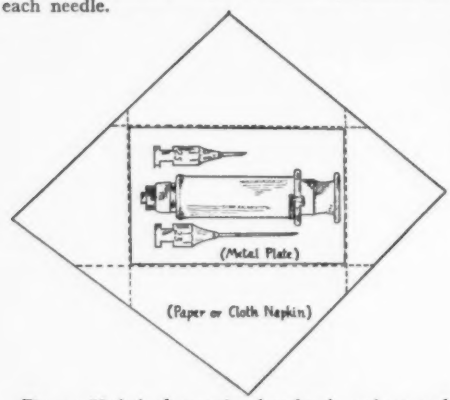

Fig. 1: Method of wrapping hypodermic syringes and needles. Dotted lines indicate folds.

A more compact syringe package can be made if the two needles are placed in a small metal clip, devised by Becton, Dickinson and Company (see Fig. 1), the syringe laid between the two, and the whole wrapped up firmly. Any type of paper or cloth may be used for wrapping purposes. I use white paper napkins, which are cheap, soft (thus absorbing the impact if the syringe should be dropped), and readily obtainable. The projecting corners are folded over and fastened.

After the syringe and needles are wrapped, a crayon or skin-marking pencil (obtainable at any supply house) is used to inscribe on it such identification marks as, "5 cc., 23 & 25," or "Tuberculin, two 25's." The syringes are then ready to be placed in a tray in the office, and in your bag, ready for any and all emergencies.

Needles used for unusual purposes are sterilized by themselves and so marked, as "spinal needles, 20-gage," or "gage 24, 3-inch."

After use, the syringe and needles are washed out with water, then with alcohol, and finally with ether. They are allowed to dry and then wrapped again for sterilization.

Simplicity and efficiency are achieved by using the same brand of syringes and needles exclusively, thus reducing the possibilities of their not fitting well. I use B-D Luer-Lok syringes,* because the tip of the syringe is very strong (it does not break off, as a glass tip does, when the syringe is dropped or when a needle is removed), and because the tight fit permits heavy, oily solutions to be injected without leaking of solution around the needle.

Catheters are wrapped while *lying straight*, as any kinking tends to be exaggerated by sterilization. Rubber-bulb syringes of the "Asepto" type are simply wrapped, after drying, in four or five thicknesses of paper.

The expense, if figured out over a period of a year, is much reduced from the amount expended for syringes of various types, ill-assorted needles, breakage, and daily heating of an electric sterilizer to sterilize a few syringes.

R. L. GORRELL, M.D.

Clarion, Ia.

The Problem of the Grown-Up Infant

"WILL you take Sam Adair's note in my favor to apply on my overdue account?" John Henry Mills queried. "I've owed you for longer than I like to remember."

"Yes, if you'll endorse it," Doctor Medico agreed.

"I'll endorse it 'without recourse'," Mills suggested.

"That means I'll have no come back on you if Adair fails to pay."

"Well, that's the only way I'll endorse it."

"All right, endorse it and see what happens."

Time traveled on and the note fell due.

"You've got nothing on me," Adair pointed out. "Here's a birth certificate to prove that I was 20 years, 11 months, and 27 days old when I signed

*Manufactured by Becton, Dickinson and Company.

that note, and you know an 'infant's' note cannot be collected."

"You've got nothing on me, either. I endorsed it 'without recourse'," Mills averred.

"They don't know as much law as they think they do," Medico's lawyer assured him. "It is quite true that, when Mills endorsed the note 'without recourse,' that fact prevents you from suing him as endorser; but even though he endorsed the note that way, he thereby warranted that Adair was legally capable of making the note."

"You mean that, while I cannot sue Mills on his *endorsement,* I can sue him on the *warranty* implied in that endorsement," Doctor Medico suggested.

"Precisely! You'd have made a pretty fair lawyer," the attorney assured him.

"This warranty was breached by the endorser, because the maker of the note was, at the time he signed it, a minor, without legal capacity to make a contract or sign a note, and the Doctor can sue the endorser for a breach of that warranty without first suing the minor. The Supreme Court of Alabama has so ruled in 109 So. 574," said Judge Enright, in deciding in the Doctor's favor.

M. L. H.

Aid for the Medical Witness

THE courtroom is an unfamiliar and often dread territory. Far pleasanter places than the witness chair can be imagined. However, every doctor faces medico-legal problems and controversies. With tomorrow may come a summons to appear in civil or criminal court as a factual or as an expert witness. The doctor's importance as an aid to the administering of justice has been accelerated by this modern age of speed and of machines. Automobile accidents and industrial accidents have increased. Occupational diseases have come into prominence. Workmen's compensation, employers' liability, trade unions and, in some states, industrial accident commissions, are modern developmer 's.

Medical witnesses may, through reading and study, give evidence in the most forceful and effective manner. From "Frauds in Medical Practice," by the noted authority, Sir John Collie, we take these rules for giving Evidence.

1. Speak slowly and distinctly.
2. Watch the Judge's pen. When he stops writing, resume your evidence.
3. Look at Counsel as he propounds his questions, but direct your reply to the Judge and Jury.
4. Answer the exact question put. If any explanation or amplification is necessary, the witness has a right to give it after giving a direct answer.
5. In giving medical evidence, you must be careful not to give the Court the impression that you know it has no really sound knowledge on medical subjects.
6. Nothing is more effective than to take into the witness box a model or picture. This always impresses both the judge and the jury. One can often make a fracture quite clear by showing a bone.
7. A medical witness can always take his notes with him into the witness box and refresh his memory from them, *if and only if they are the original notes which he took at the time of his examination.*
8. Seldom, if ever, use technical language; if it is imperative to do so, explain it.
9. Make sure that your process of reasoning is abundantly clear.
10. Put aside all bias, and be absolutely candid. Remember that you have sworn not only to tell "the truth" but "the whole truth." This, I take it, refers to *suppressio veri.* Do not hesitate to admit a fact which may, at first sight, appear to be against your contention. You will probably be able to demonstrate that it is not so in reality. In any event, the admission will demonstrate such fairness that the remainder of your evidence will have an advanced value.
11. A medical witness should be scientifically exact, lucid, and succinct.
12. Remember that, in medicine at any rate, anything is possible, therefore get the credit of willingly admitting it.
13. Never give evasive answers.
14. Never guess.—*The Bulletin,* Orleans Parish.

Essentials for Mental Health

THESE are the rules for gaining and keeping psychic or mental health:

1. A set of spiritually and mentally adult grandparents, and loving, sympathetic, and understanding parents is highly desirable, if not essential.
2. Develop self-discipline, a sense of personal responsibility, and respect for the rights and feelings of others: That is, *grow up,* emotionally and spiritually.
3. Get *knowledge*—lots of it, of all kinds—and *use* it, so that it will develop into wisdom.
4. Crowd out selfishness with loving, intelligent, and *practically* helpful interest in *others.*
5. Get a *philosophy of life,* comprehensive enough to answer *all* your questions about God, the universe, and you, and one or more *creative* activities (hobbies), and *use them every day.*

GEORGE B. LAKE, M.D.

Waukegan, Ill.

★ Books ★

Mine Eyes Have Seen

Withington

MINE EYES HAVE SEEN: A Woman Doctor's Saga. *By* ALFREDA WITHINGTON, M.D. *Introduction by the Late* SIR WILFRED GRENFELL. *New York: E. P. Dutton & Co., Inc. 1941. Price, $3.50.*

THIS volume is more than a remarkable book by a remarkable woman. It is the story of a woman physician who retained a genuine love of humanity, despite a life spent in the hard physicial work of caring for the sick in distant mountains and on the cold shores of Labrador. Very few of us who have become accustomed to the easy routine of practice would give it up to ride horseback through the Kentucky mountains on long calls and deliveries.

Her stories of studying in Europe, in the days when a woman physician was a rarity—often an undesired intruder—are stimulating.

The book is recommended to those who have become sick of the routine physician's biography.

The Seminar

Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussions of any or all problems. Discussions should reach this office by the 5th of the month following the appearance of the problem. Send your problems and discussions to The Seminar Dept. care CLINICAL MEDICINE, Waukegan, Ill.

Problem No. 9 (Medical)

Presented by W. E. McKinley, M.D., Jewell, Kans.

(See CLIN. MED., Sept., 1941, p. 225)

RECAPITULATION: A young man of 19 years, who had had rheumatism, chorea, and influenza a few years previously, and whose usual weight was 158 pounds, began to have a "queer" feeling in his head, dizziness, and muscular aching, late in February, 1935. Two weeks later he had a fever from 100° to 103° F., chilliness, and cold sweats, and a physician put him to bed for a few days. Six weeks later he had lost 20 pounds in weight and was put in a hospital. He was weak and nervous and felt ill all over; had some pain over the heart; some dyspnea; and a systolic heart murmur. He fainted while being examined, and afterward showed sensory and motor disturbances on his left side. The x-rays showed enlargement of his heart shadow. His tonsils were submerged and cryptic.

On April 22, 1935, he weighed 132½ pounds; his blood pressure was 142/62; pulse, 104; temperature, between 99° and 102° F.; hemoglobin, 70 percent; red blood cells, 3,950,000; leukocytes, from 6,950 to 9,800. No other significant abnormalities were found. He died September 30, 1935.

Requirements: Suggest the differential diagnosis, *giving reasons*, and outline the treatment. What further examinations would *you* have made, if any?

Discussion by Ward W. Weltmer, M.D., Beloit, Kans.

The main points in this case seem to me to be: a boy, age 19, with a history of infection (influenza, rheumatism, and chorea) and with an illness of rather slow progress, of five months' duration.

The main symptoms were: (1) "Queer feeling" in the head and neck (pulsation?); (2) dizziness; (3) muscular aching; (4) fever with an obscure course; (5) precordial pain; (6) numbness and a fainting spell; and (7) blood pressure 142/62, with pulse rate over 100.

To me, this presents a typical case of *endocarditis*, of which there are four main types: *Rheumatic*, which develops during an attack of rheumatic fever and is usually heralded by an increase of the fever, precordial pain, increase in pulse rate, a murmur, and often considerable dilatation of the heart, appearing later; *acute bacterial endocarditis*, also usually secondary to one of the acute infectious diseases, with the diagnosis usually based on the appearance or increase of the signs of septicemia and finding of positive blood cultures. Cardiac symptoms are sometimes prominent and the case is often rapidly fatal; *subacute bacterial endocarditis* (of which I think this case is a type) in which the patient with a pre-existing valvular lesion experiences a re-infection of the endocardium from an infectious process in the teeth, tonsils, middle ear, or other focus, runs an obscure febrile course, with a murmur of growing intensity, petechiae on the extremities, and infarction of the vital organs. Blood cultures are nearly always of the non-hemolytic streptococci and death results from cerebral emboli; and *non-bacterial endocarditis*, which apparently is an independent disease, in which the patient becomes suddenly and acutely ill, with fever, marked prostration, vomiting, pain in the epigastrium, dyspnea, precordial pain, and, after 24 hours or so, palpitation with more precordial pain, indicating cardiac involvement. Recovery takes place in 2 or 3 weeks, with convalescence very slow.

This case was well handled, as in the subacute type of endocarditis there is no specific treatment. Vaccines and protein therapy have been tried, but without any noticeable result.

Discussion by Loyal Davis, M.D., Chicago, Ill.

Dealing solely with the neurologic symptoms in this case, it would seem that there must have been some error in observing or recording them.

Ankle clonus, which is inexhaustible and is due to an organic lesion, is never present without absent abdominal reflexes and one of the pathologic reflexes of which the Babinski phenomenon is an example. I note that the left abdominal reflexes were absent and that there was a withdrawal reaction on stimulation of the feet. I should suspect that the Babinski phenomenon was not properly elicited.

I do not believe that ankle clonus alone is enough evidence of an upper motor neuron lesion. Neither do I think it is absolutely necessary to have a Babinski sign if ankle clonus is present, but it is certainly likely to be there.

I note with surprise that the urine was reported microscopically negative. A blood culture at this time would probably have been positive for *Streptococcus viridans*. Such cultures, in this type of case, should be repeated for two weeks, as this organism is very slow-growing, and many cases may be falsely regarded as negative. A spinal fluid Wassermann test would also have been in order, as well as a careful examination for clubbing of the fingers, painful finger tips, and enlargement of the spleen. These examinations may have been made, but are not mentioned in the report, and in this type of case they should be recorded, whether positive or negative.

Few conditions would have to be differentiated in this particular case, except during the early stages. The weakness, loss of weight, fever, and night sweats may lead one to suspect *tuberculosis;* but roentgenograms, a tuberculin test, sputum examination, and observation should serve to differentiate here. The heart murmur, fever, vague pains, anemia, and weakness may suggest a case of *rheumatic fever,* in which salicylates generally afford rather rapid relief and a drop in the temperature; but in bacterial endocarditis they show little effect. Pericarditis, arrhythmias, and alteration in the electro-cardiogram are common in rheumatic fever and rare in bacterial endocarditis. Anemia becomes more marked in bacterial endocarditis. It is difficult to differentiate these conditions at times, but very important to do so, from the standpoint of prognosis. *Undulant fever and cerebrospinal syphilis* must be considered, but both may be rather definitely differentiated.

This disease is highly fatal and highly resistant to all types of treatment which we now have available. Rest in bed and supportive treatment are important. There are said to be from 1 to 5 percent of spontaneous recoveries. The most recent and satisfactory treatment seems to be the combined use of the sulfonamide drugs and intravenous injections of typhoid-paratyphoid vaccine, for the production of hyperpyrexia. Some fairly good results are also reported from the combined use of the sulfonamides and heparin.

Discussion by L. E. Williams, M.D., Kansas City, Mo.

The history of this case, the temperature curve, the rapid loss of weight, anemia, sweats and chilly sensations, and the low leukocyte count suggest the possibly of typhoid, undulant fever, tuberculosis, malaria, Hodgkin's disease, or subacute bacterial endocarditis.

The blood chemistry is practically normal, with a blood sugar percentage near the lower borderline. This may be due to starvation or a diseased thyroid, injured in its attempt to fight off the infection. The heart having been found enlarged by the roentgenogram, an electrocardiogram might have been of value in determining the nature of the hypertrophy.

The patient fainted during an examination. This was followed by several minutes of mental cloudiness and symptoms of a cerebral accident. The blood pressure does not suggest hemorrhage and its suddenness is not consistent with a thrombus. The absence of anything to suggest hemorrhage or a thrombus, and the symptoms of a potential source of an embolus from the heart valves, lead me to suspect embolism of the cerebrum.

The history of rheumatic pains and the finding of an apical systolic murmur, an enlarged heart, diseased tonsils, a negative Wassermann test, septic fever, moderate leukopenia, and precordial pain, coupled with symptoms and physical findings of a cerebral embolus, point to subacute bacterial endocarditis.

My tentative diagnosis is: *Subacute bacterial endocarditis; cerebral embolism; focal infection in the tonsils.*

Treatment must be symptomatic, with fluids, salicylates for pain and fever (I prefer aspirin—acetosal—with sodium bicarbonate). Chemotherapy with one of the sulfonamides deserves a trial, but a patient of this type usually dies.

Discussion by Marvin L. Slate, M.D., High Point, N. C.

For differential diagnosis, I offer: Rheumatic endocarditis; aortic stenosis; septicemia; cerebral embolism (small area of brain involvement).

The history of rheumatism and chorea, plus the loss of weight, weakness and easy fatigability, presence of precordial pain and slight dyspnea, accelerated pulse, systolic murmur at the apex and base, moderate hypertrophy of the heart, fever, definitely infected tonsils, leukocytosis, and moderate secondary anemia, make me feel positive that we are dealing with a case of *rheumatic endocarditis.*

Two additional tests, in my judgment, would have given a great deal more information in this case: A blood culture or cultures and an electrocardiographic tracing. The electrocardiogram would clinch the diagnosis of the rheumatic involvement, and the blood culture would clarify the possibility of septicemia.

Discussion by G. M. Russell, M.D., Billings, Mont.

The heart lesion was undoubtedly caused by the patients's rheumatism and chorea, and the icterus might have been caused by compression due to congestion of the liver from decompensation of the heart, indicated by his dyspnea.

It is not stated what form of ataxia was present. The hemianesthesia could be due to a tumor or hemorrhage into the posterior limb of the internal capsule, at which the sensory fibers point upward. Very rarely hemianesthesia is indicative of a lesion in the optic thalmus, or a large cortical or subcortical lesion of the parietal, temporal, or occipital lobes, or is associated with multiple sclerosis or hemichorea.

While there are certain findings suggestive of multiple sclerosis, there are others pointing against it. The fever is rather inexplicable, except on the supposition of subacute bacterial endocarditis, which was very possible.

I should want a roentgenogram of the chest and head, an examination of the ocular fundi, and a blood culture.

As to diagnosis, he has a rheumatic heart, enlarged and evidently not compensated; a cortical or subcortical lesion of the parietal, temporal, or occipital lobes, or of the optic thalmus; or an atypical disseminated sclerosis. His final pathologic condition was probably *subacute bacterial endocarditis.*

Discussion by O. J. Hartig, M.D., Downs, Kans.

This case is rather typical of *subacute bacterial endocarditis.* The rheumatic attacks and chorea, mentioned in the history, had, no doubt, left a heart with damaged valves, and such individuals frequently have bacterial endocarditis later.

The onset, simulating that of "grippe," followed by the gradual progression of symptoms of weakness, malaise, weight loss, irregular fever, night sweats, and chilliness are highly suggestive of subacute bacterial endocarditis, and the anemia, mild leukocytosis, and cardiac murmurs support that diagnosis. Often no further symptoms or signs occur during the first few weeks of the disease. The neuromuscular findings strongly suggest the presence of *emboli in the central nervous system.* The "fading rash" was probably petechial.

Discussion by William Edwin Ground, M.D., Superior, Wis.

This patient seems to have had enough symptoms to back up half a dozen or more diagnoses, but my "guess" is that they revolved around *infectious endocarditis,* primarily. He had infected tonsils, rheumatism, chorea, intracardial murmurs, and an enlarged heart; and his type of chills and fever go with endocarditis.

Discussion by W. B. Palmer, M.D., Furman, Ala.

In approaching this problem, we must keep in mind the past medical history of this patient: "Attacks of rheumatism, influenza, and chorea between the ages of twelve and fifteen years."

Rheumatism is often classified as (1) acute rheumatic fever; (2) fibrositis, named after the location or type of tissue involved; (3) atrophic (rheumatoid) arthritis; and (4) hypertrophic (osteo) arthritis.

This child had choreic symptoms many years ago. In all such cases it is necessary to eliminate the possibility of such symptoms caused by other conditions including brain tumor, epidemic encephalitis, lesions of the corpus striatum, etc., all showing a rapid sedimentation rate of the erythrocytes, as happens also in acute rheumatic fever. True rheumatoid arthritis (called Still's disease in childhood) also shows a rapid sedimentation rate.

We use the word rheumatism loosely, as a synonym for joint pains, which may or may not be present in acute rheumatic fever. Heart disease is a common sequel of acute rheumatic fever, which is misnamed, because it is generally a chronic process. In rheumatoid arthritis, whether infectious or metabolic, the heart is seldom involved.

This patient apparently had acute rheumatic fever, with prior symptoms of polyarthritis, and with a present carditis, endocarditis (probably septic), and perhaps pericarditis. At times there seem to be no cardiac disturbances and no dyspnea; only a systolic murmur at the apex (sometimes at the base) and enlargement of the heart. The perspiration, malnutrition, and loss of weight were caused by the septic process.

Without a knowledge of the past history, the physician who has not made a close examination may feel secure, until a sudden detachment of some of the vegetative growth on the valves may be lodged in the brain or other part of the body. The spleen should be examined for tenderness.

After the attack, nothing could have been done by Dr. McKinley, for the time for successful treatment had passed. When a child has an attack of rheumatic fever, we must carry out prophylaxis to prevent damage to the heart, or if the heart already is damaged, to salvage what we can. In regard to the tonsillectomy, the difference in the occurrence of rheumatic fever between those who have diseased tonsils and those who do not is negligible, but it is not necessary to discourage the removal of any focus that may cause damage. There is often a family history in these cases, but not so definite as that of patients who have atrophic arthritis.

The treatment of acute rheumatic fever is rest in bed for an indefinite time, similar to that carried out for tuberculous patients; a well-balanced diet, with the required vitamin content; and mental rest. When danger has subsided, stimulate the vasomotor system of the skin by gentle massage, fresh air, and perhaps brief courses of ultraviolet irradiations. Salicylates are frequently used only during the stage of fever, but these often upset the stomach, and may give the parents a false sense of security.

The various treatments, such as giving typhoid-paratyphoid vaccine, intravenously, or protein shock, to produce fever, are not advisable. If fever is to be induced, utilize Kettering's hypertherm or something similar, where the heat or fever can be controlled. By such a method, choreic symptoms, and even polyarthritis and carditis, have been relieved or benefited; but this requires hospitalization and the services of an expert physical therapist.

Such children, after treatment and relief, need periodical examinations, and it requires tact and knowledge to direct the physical, mental, and social education of these children to prevent strain from overwork and competition. We should not lose sight of the fact that discretion is needed to prevent these children from becoming introspective, which always brings unhappiness to them and their associates.

Discussion by R. L. Gorrell, M.D. Clarion, Iowa

Dr. McKinley presents a well worked up case, but due to typographic or other errors, several apparent misstatements are found which confuse the issue. For example, the statement is made that "the tendon reflexes were greater on the left than on the right," yet in the next line we read, "the knee jerks were equal." "Sensation was diminished in the left hand" (was this for pain, touch, or temperature; and is the left leg and side of body also involved?). No mention is made of involvement of the face, either in hemiparesis or loss of sensation.

I, like most other general practitioners without special neurologic training, feel baffled by any complex neurologic picture. This helplessness is not relieved by the divergent statements of "authorities" as to the meaning of various signs (see Table I). In this case, it is mentioned that bilateral ankle clonus was present, yet no Babinski sign was found. Both signs theoretically indicate involvement of the motor nerves above the level in the spinal cord (upper motor neurone lesion or pyramidal tract involvement), and both usually are found together.

The essential symptoms and signs mentioned in the problem are listed, with some attempt to explain them, in Table II.

Because of lack of data, an exact diagnosis cannot be made. No mention is made of the condition of the lungs, so that pulmonary tuberculosis cannot be ruled out as a cause of the central nervous system signs. No spinal puncture is recorded, with evidence as to a spinal block, spinal fluid pressure, bacterial content, or spinal-fluid Wassermann test. No mention is made as to whether the neurologic signs were transient (as is supposed to be a typical finding in multiple sclerosis) or permanent, or whether right hemiparesis later developed.

Summary: Unless the chloride reading is a misprint, the blood chloride is excessively low. Andes and Eaton, in "Synopsis of Applied Pathological Chemistry", state that blood chlorides are lowered

in (1) heat cramps or prostration; (2) sweating; (3) intestinal obstruction; (4) vomiting, diarrhea, or starvation; (5) sodium bicarbonate overdosage; (6) mercury bichloride poisoning; (7) diabetes; (8) *infections;* and (9) burns.

A blood culture revealing *Streptococcus viridans,* or clinical evidence of petechiae on the skin or eyelids, would definitely permit a diagnosis to be made of *subacute bacterial endocarditis.* Syphilis cannot be ruled out unless a spinal-fluid Wasser-

TABLE I

Author	Significance of ankle clonus
Robertson and Robertson, "Diagnostic Signs"	Found in *lateral tract disease* and *multiple sclerosis.*
Bing and Haymaker, "Text of Nervous Diseases"	Spastic syndrome; involvement of pyramidal tract.
Nielsen, "Text of Clinical Neurology"	Usually indicates a lesion of the corresponding pyramidal tract, but is present in *any* state causing exaggeration of the deep reflexes.
Loyal Davis, "Neurologic Diagnosis"	Lesions of the upper motor neurone produce spastic paralysis, increased deep reflexes, and decreased superficial reflexes, and the Babinski and clonus signs.
Russell Brain, "Diseases of the Nervous System"	Ankle clonus is often obtained when tendon reflexes are exaggerated after a pyramidal lesion.

TABLE II

Symptom or sign	Possible cause
"Queerness in the head."	Brain involvement.
Vertigo.	Brain involvement; fever.
Generalized aching; Weight loss; Tiredness.	Fever; infection.
Precordial pain and slight dyspnea.	Cardiac hypertrophy; tachycardia
Slight scleral icterus; Fever.	Infection such as subacute bacterial endocarditis, typhoid, tuberculosis, undulant fever (no skin test was used), meningitis.
Weakness in left arm and leg; increased left tendon reflexes; absent abdominal reflexes.	Left hemiparesis
Ankle clonus, bilateral.	Bilateral pyramidal tract lesion.
Pulse 104	Fever; thyroid over activity; heart disorder.
Fading rash over shoulders (type and date not given).	Petechiae found in meningococcic meningitis or subacute bacterial endocarditis.
Cardiac and aortic arch enlargement.	Syphilitic aortitis; previous rheumatic myocarditis.
Systolic murmur at base.	Organic heart disease; subacute bacterial endocarditis following previous rheumatic endocarditis.
Attacks of rheumatism and chorea.	Possible pre-existing rheumatic heart disease.
Fainting, confusion	Cerebral vascular accident.
Leukocytes 7,000 to 10,000	Low grade infection, tuberculosis, possibly in subacute bacterial endocarditis.

Blood chemistry tests:	Normal	Found
Non-protein nitrogen	25-35	26.0
Urica acid	2-3.5	1.5
Creatinin	1-2	1.9
Sugar	80-120	95.2
Chlorides	570-620	4.6

(Continued on page 324)

Clinical Notes and Abstracts

Injection Treatment of Hemorrhoids*

Selection of Cases

CASES of hemorrhoids for treatment by injection must be selected with judgment, to exclude unsuitable ones. After 21 years' experience, I recommend the following grouping of cases.

First: Cases suitable for injection: These are uncomplicated internal hemorrhoids, of the first and second degree. They must be soft, non-fibrous, and reducible, and there must be no eversion of the anal margin. If this rule is observed in selecting cases, protrusion and bleeding should be relieved by injection treatments.

Second: Cases unsuitable for treatment: Fibrous internal hemorrhoids, polypi, enlarged papillae, enormous prolapsing internal and interno-external hemorrhoids, or those with a large skin tag which tends to drag down the mucosa. It may occasionally be permissible to treat this type, in elderly individuals.

Do not treat an internal hemorrhoid which prolapses immediately after being replaced, because the results are usually unsatisfactory. Do not inject hemorrhoids in the presence of a fistula, a tumor, skin tags, or thromboses, either acute or old; nor any rectal disorder in any patient who has pain at or following stool or on the introduction of a speculum. In the presence of infection, the results will not be satisfactory, and if the patient has pain on the introduction of a speculum, treatment cannot be carried out satisfactorily.

Instruments

Lighting is best provided by a good head light or a spot light, coming over the right shoulder. A lighted speculum may be used, but as a rule, the simpler the armamentarium the easier the procedure.

Anoscopes: Several anoscopes should be at hand; tubular ones of the Hirschman and Vernon, David, or Kelly types, of sufficient caliber to give a good view and 2 to 3 inches in length, are the most satisfactory. Specula with the lateral slots are not desirable, especially those of the Brinkerhoff and Goldbacher type, because hemorrhoidal tissue frequently becomes wedged firmly in the slot.

Syringes: A 3 cc. Luer Precision, long-barrel syringe is best, and I use a bayonet extension about 2½ to 3 inches long, which assists in reaching the lesion through the anoscope.

The needle must be large enough in caliber to allow oily solutions to flow freely, so an 18-gage, 1-inch, rust-proof needle is used. If desired, a special hemorrhoidal needle with a guard may be used, but I have never thought this necessary.

Solutions: Two solutions are in common use: phenol in oil, 5- or 10-percent, and quinine and urea, 5- or 10-percent aqueous solution. The phenol in oil solution is prepared by dissolving 60 grams of Merck's pure phenol crystals in 60 cc. of Wesson cooking oil, to make a 50-percent stock solution. To prepare a working solution, take 10 cc. of the stock solution and 90 cc. of Wesson oil and mix thoroughly.

Preliminary preparation of the patient: No dietary restrictions are necessary. The patient is asked to take a physiologic salt solution flush five or six hours before coming in for treatment, so that the bowel will be empty.

Technic of Injection

The patient is placed on left side in an exaggerated Sims' position, as this position gives the best exposure. A well-lubricated, large-size, Hirschman speculum is then inserted into the anal canal, and is turned before withdrawing the obturator so that the aperture of the speculum will expose the area to be injected. The position of the speculum should at no time be changed unless the obturator has first been replaced.

It is my custom to inject the largest pile first, and the site of injection should be at the upper pole. This area is painted with tincture of Merthiolate and the needle is inserted through the mucosa, with the bevel toward the bowel wall. The mucosa is then lifted with the point of the needle, to determine the depth at which it has been placed. The solution is then slowly injected. One should be able to see it spread evenly beneath the mucosa. A sufficient quantity of solution to produce a fairly prominent, pale swelling should be injected. If blanching appears immediately upon injection, the needle is probably too superficial, and there will be a local slough if the injection is continued. In this event, the needle should be withdrawn and reinserted more deeply.

The amount of solution to be injected will depend upon the redundancy of the mucosa at the upper pole. A very large pile will require from 3 to 5 cc., while smaller ones may require as little as ½ to 1 cc. Best results are obtained by

*Journ.-Lancet, Jan., 1941

large, infrequent doses, rather than by small, repeated injections.

On withdrawing the needle, a cotton applicator should be applied firmly to the point of injection, in order to prevent leakage, arrest bleeding, and assist uniform spreading of the solution. Following the injection, it is my custom to insert into the rectum immediately ½ ounce of 1-percent Diothane ointment, to coat the surface and allay pain, which occasionally does occur.

After-care: If the patient is employed, it is best to have him come in at the completion of his day's work. He is usually asked to lie quietly for ten minutes following the injection, after which he is allowed to leave the office, and is instructed to go home and lie down for an hour and to avoid any strenuous exercise.

If a treated pile should prolapse, the patient is advised to replace it immediately, as strangulation might occur. Mineral oil is given by mouth on the day of the treatment and on the following day, in order to obtain a soft, oily stool, and the bowels are allowed to move whenever they have the inclination.

LOUIS E. MOON, M.D., F.A.C.S.
J. B. CHRISTENSEN, M. D.,
Omaha, Neb.

Simple Pneumonia Treatment

PNEUMONIA, in patients between 15 and 27 years of age, may be treated rather simply. Codeine should be given for cough; morphine for pain, restlessness, and fright. Pain and tightness in the chest are relieved by heat applied locally (mustard). Hot packs or warm turpentine stupes are applied to the abdomen for distention. Enemas are given only when needed (sodium bicarbonate and saline enemas are non-irritating).

Severe cough, persistent headache, and dyspnea are usually treated by oxygen, which is the greatest single ally and comfort-providing agent in treating pneumonia.

Although sputum cultures should be made, only occasionally will pneumococci be found. Pneumonia in this age group is "atypical," in that either no bacteria will be found or, in many cases, streptococci will be present. In two-thirds of the cases, the lesions will be found in a lower lobe.—C. E. LYGHT, M.D., in *Ann. Int. Med.*, June, 1941.

Eye Inflammations in the Newborn

DIFFERENTIAL diagnosis of eye inflammations in the newborn should include: (1) silver nitrate reaction; (2) gonorrheal infection; (3) inclusion blennorrhea; and (4) dacrocystitis of the newborn.

The *silver nitrate reaction* is accompanied by slight or moderate congestion of the bulbar and palpebral conjunctiva, the stained secretions are negative for gonococci, and the signs usually disappear in several days.

In cases of *gonorrheal conjunctivitis*, the lids promptly swell and there is a profuse, creamy, purulent discharge, in which gonococci are found.

A mild inflammation of the eye of the newborn, appearing several days after birth, accompanied only by slight swelling of the lids, may indicate *inclusion blennorrhea*. If the secretion is stained with Wright's or Giemsa's stain, the inclusion bodies can be discovered.

Lacrimation is the first sign of *dacrocystitis* in the newborn. A small amount of mucopurulent material is seen to hold the lids together. If pressure is made over the lacrimal sac, a drop or more of purulent secretion will be expressed. For examination it is best to use a head loupe, and to have the child's head steadied by the mother or nurse.

Treatment: Routine use of a mild silver protein solution (Argyrol), with daily expression of the pus from the sac, clears up mild cases. Pus should be removed from the nose with a fine, cotton-wound applicator or suction.—H. V. JUDGE, M.D., in *N. Y. St. J. M.*, Jan. 1, 1941.

Subluxation of the Radial Head in Infancy

A FAIRLY frequent, and frequently overlooked, injury to children between the ages of 18 months and 3 years is a partial dislocation of the head of the radius. It follows a jerk or fall on the arm or "heel of the hand," and the forearm is held pronated. The roentgenogram is negative.

Treatment: One hand grasps the forearm and the thumb of the opposite hand is placed over the radial head. The arm is extended, the forearm supinated and thumb pressure is made over the radius. A click can be felt as reduction occurs. An adhesive dressing is applied with the arm in flexion, and left on for from 2 to 3 weeks.—O. C. HUDSON, M.D., in *N. Y. S. J. M.*, Aug. 1, 1941.

Treatment of Varicose Veins

QUININE hydrochloride and urethane give good results in injecting varicose veins. Sodium morrhuate should be used for the fine veins ("spider bursts"). Embolism and infectious thrombophlebitis have not followed the use of quinine in 6,000 injections (quinine is bactericidal).

Where the veins are grossly dilated and the valves incompetent, better results will be obtained by ligating the long saphenous veip in the upper thigh, under local anesthesia. The vein is readily found by locating the femoral artery by its pulsation, and making a parallel incision two inches mesially.

Contraindications to injections: Many men have been confused by the large number of tests advocated to determine if the deep veins are competent. These are unnecessary, except for their prognostic value. One should apply a tourniquet to the limb and have the patient walk around the block; if no pain or discomfort appears, it is safe to inject the veins.—S. H. BABINGTON, M.D., in *West. J. Surg., Ob. & Gyn.*, April, 1941.

As an economic measure I had decided to discontinue CLINICAL MEDICINE, but find that it is quite indispensable, as it gives me a better understanding of the relationship between dentistry and medicine. Am inclosing my check for two years' subscription.—H.L.A.F., D.D.S., Texas.

Early Diagnosis of Cancer of the Uterine Cervix

THE normal epithelium of the cervix contains, in the superficial cell layers, large quantities of granular glycogen, which is produced and stored by the cells. Carcinomatous epithelium loses the potency to produce as well as to store glycogen, and is therefore free from this substance.

To differentiate the glycogen-containing and glycogen-free areas, the cervix is brought in contact with a dilute aqueous solution of iodine. The best solution has been found to be one containing 1 Gm. of iodine, 2 Gm. of potassium iodide, and 300 cc. of water. This solution stains the normal, glycogen-containing cervical epithelium a dark brown, whereas carcinomatous epithelium remains pale.

In carrying out this procedure the following steps are employed: First, expose and clean the cervix; second, pour 10 or 20 cc. of the iodine solution into the vagina, being careful to distribute it throughout; and third, after 40 to 60 seconds, examine the cervix carefully. Brown areas are normal; pale, unstained areas are suggestive of carcinoma, but are not pathognomonic. There are several other pathologic changes which also prevent the production and storage of glycogen. Hyperkeratosis from prolapse, in consequence of syphilis or of the idiopathic type, can be responsible for unstained areas. Which one of these various causes is responsible for the absence of staining must be determined histologically. Since only a biopsy of the surface epithelium is necessary, there is no need for an exploratory excision: scraping the surface epithelium with a sharp curet is sufficient. *The diagnosis can and should be made before the phase of downgrowth.*

Years of experience have proved that carcinoma usually begins in perfectly normal cervices. The test should not be confined to suspicious cases, such as elderly women with eroded cervices, but should be done as a routine procedure in all patients with gynecologic complaints and, if possible, in all women, including the comparatively young. If the latter were possible, we should be able to discover carcinoma of the cervix in a phase of its development which would offer a chance of cure of nearly 100 percent.—WALTER SCHILLER, M.D., in *New Eng. J. of M.*, May 26, 1938.

Inexpensive Baby Incubator

AN OBLONG container is made of galvanized iron (preferably with double walls and insulation between them), about 30 inches long, 23 inches wide, and 16 inches deep. It can sit on a low table or small wooden stand with casters. It will hold a bassinet slightly smaller in size, which should have short legs or can be supported by wooden cross bars, and a dish containing water, for moisture, under it (See Fig. 1).

The incubator can be maintained at any desired temperature by placing a hot-water bottle inside, between the wall of the incubator and the crib. For a cover, all that is needed is a piece of pliofilm which can be purchased at dry goods stores. In the hem of the covering a light chain is sewed, or lead weights sufficiently heavy to keep it in place are attached with adhesive plaster.

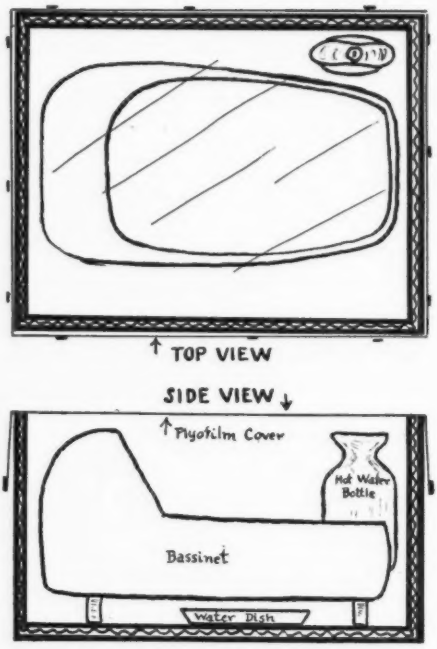

Fig. 1: Diagrams of baby incubator.

A rubber tube from an oxygen tank can be passed in through a hole in the wall of the incubator or over the top, under the cover. The concentration of oxygen in a box of this size and construction can be raised to between 50 and 60 percent by a flow of oxygen of 15 liters per minute for about two minutes.—W. M. BOOTHBY, M.D., in *Surg. Clin. N. Am.*, Aug., 1940.

Treatment of Menorrhagia, Metrorrhagia, and Abortions

IN MOST cases of menorrhagia and metrorrhagia, in which no pelvic lesion is found, there is usually some endocrine imbalance, and we know that pregnant women seldom menstruate; that there are many units of progestin and other hormones in their blood. Then why not use the blood of pregnant women to control bleeding in other women? By this means a pseudo-pregnancy is produced in these women, which controls their bleeding. Then by withdrawing this treatment, the hormone imbalance may be corrected on termination of the pseudo-pregnancy.

These patients are given 50 to 100 cc. of citrated blood of pregnant women until they stop bleeding, which usually takes from 2 to 5 days. This treatment has been used in only one case, but the results were so spectacular that I am advocating its use in other clinics.—KARL J. KARNACKY, M.D., in *Med. Rec. & Annals*, May, 1937.

Characteristics of Drug Allergies

DRUG	NATURE OF REACTION	RESEMBLES
Acetylsalicylic Acid	Red, inflamed skin	Scarlet fever
Arsenic	Itching Red, inflamed skin Elevated patches on skin, resembling hives Eczema-like vesicles, discharge, scales, and crusts Shedding of skin in scales or sheets Peeling of horny layer of the epidermis of palm of hand Spotted pigmentation	Scarlet fever *Erythema multiforme* Eczema Keratosis hereditaria Addison's disease
Arsphenamines	Itching Elevated patches of the skin, resembling hives Red, inflamed skin Small, solid elevations of the skin, resembling pimples Pimples with scaling of skin Exfoliative dermatitis . . . a peeling, scaling skin condition Small, purple patches on skin Fixed eruptions	Hives or Nettle rash *Erythema multiforme* Measles *Pityriasis rosea* *Erythroderma maligna* Blood dyscrasia
Acetanilid	Red, inflamed skin Blueness of skin (cyanosis), with methemoglobinemia	Scarlet fever Cardiac disease
Antipyrine	Small, solid elevations of the skin, resembling pimples Fixed eruptions	Measles
Atropine	Red, inflamed skin Localized eczema-like vesicles, discharge, scales, and crusts	Scarlet fever Contact dermatitis
Barbiturates	Red, inflamed skin; small, solid elevations of the skin, resembling pimples	Scarlet fever
Bromides	Small elevations of the skin, filled with pus or lymph Fungus-like growth	Acne Blostomycosis *Tuberculosis verrucosa*
Iodides	Nasal discharge of thin mucus Inflammation of the glands in the neck Same as Bromides	Coryza
Mercury	Red, inflamed skin Eczema-like vesicles, discharge, scales, and crusts	Scarlet fever Contact dermatitis
Phenolphthalein	Slightly elevated patches on the skin, resembling hives Fixed eruptions	Hives or Nettle rash
Quinine	Eczema-like vesicles, discharge, scales, and crusts Red, inflamed skin Blisters filled with watery fluid	Scarlet fever Contact dermatitis *Erythema multiforme*
Salicylates	Red, inflamed skin Small, solid elevations of the skin, resembling pimples Blisters filled with watery fluid	Scarlet fever Measles *Erythema multiforme*
Silver	Slate-gray pigmentation	Cyanosis
Sulfonamides	Red, inflamed skin Slightly elevated patches of the skin, resembling hives Small, solid elevations of the skin, resembling pimples Purple patches on the skin Photosensitivity	Scarlet fever *Erythema multiforme* Measles Blood dyscrasia

—L. A. Brunsting, M.D., in *Minnesota Medicine*, Mar., 1941.

Undiagnosed Fractures

AN OCCULT fracture is one which gives clinical signs of its presence, yet cannot be shown on the roentgenogram until days or weeks later.

Fractures of the ribs, skull, and spine may not be demonstrated. Fractures of the scaphoid are diagnosable by the presence of effusion into the wrist joint and by localized tenderness of the bone ("the snuff box"). Six cases of fracture of the clavicle without displacement, which occurred at the point where the shadow of the clavicle and that of the first rib intersect, went undiagnosed.

If the clinical examination indicates a fracture, treat the condition as a fracture and repeat the roentgenograms in 2 or 3 weeks.—R. HAMMOND, M.D., in *J.A.M.A.*, Aug. 16, 1941.

If fractures are not to be overlooked, one must have extra views taken in those areas where they are commonly overlooked—wrist, olecranon, radial head, and ankle (especially the malleoli). Vertical and angle views of the shoulder should be taken, and routine stereoscopic views of the skull, shoulder, spine, pelvis, and hips. Fifty percent of fractures of the scaphoid of the wrist are overlooked by the average general practitioner.

W. C. HILL, M.D.

For suspected fracture of the carpal scaphoid, films should be made in at least six different positions of the wrist. Films must be black; *roentgenograms of the hands and feet should be so dark that they require study with a spotlight and magnifying glass.*—C. N. PEASE, M.D., in *J.A.M.A.*, Aug. 16, 1941.

Office Gynecology

THE examination of a patient with a gynecologic complaint includes a *urinalysis*. The patient need only cleanse the genitalia, plug the vagina with clean cotton, and then urinate, in order to obtain a clean specimen at home.

The *sedimentation rate* is a more reliable and delicate test for the presence and prognosis of infection than is the leukocyte count.

The daily use of *glycerin tampons* will relieve the severe itching and burning of *trichomonas vaginitis*.

An acute *gonorrheal infection* should be treated by rest in bed (gynecologic cases).

Cervical cauterization may be performed at one sitting, in the office. Cauterize the entire exposed erosion to a dry, black eschar; cauterize the endocervix in from 2 to 4 longitudinal axes. The patient should not leave the office for one-half hour.

Pain caused by moving the cervix anteriorly (on pelvic examination) is frequently due to chronic infection of the endocervix, which has involved the uterosacral ligaments.

Dyspareunia is only occasionally due to mechanical causes (tight vaginal introitus); more frequently it is caused by pelvic tenderness (cervicitis, ureteral tenderness); most frequently by psychic disturbances.

Inflammation of the trigone is not uncommon in the presence of cystocele. Tenderness is found on palpating the base of the bladder through the anterior vaginal wall. Instillation of ¼ to 1 percent mercurochrome solution is curative.—J. F. NASH, M.D., in *South. Med. & Surg.*, Aug., 1941.

Sulfanilamide in the Eye

SULFANILAMIDE can be used locally in the eye without pain or damage to the tissues.

Infections of the anterior part of the eye, caused by the pneumococcus or gonococcus, respond to both local and oral use of sulfanilamide.

Corneal ulcers heal rapidly if sulfanilamide powder is applied.

The use of sulfanilamide, orally and locally combined, or locally only, will arrest activity in 83 percent of first and second stage **trachoma.** Third and fourth stage trachoma may be greatly improved by the same treatment, and infectiousness can be eliminated.—*E. E. N. & T. M.*, July, 1940.

The Seminar

(Continued from page 319)

mann test is made (and some syphilologists feel that even this test is not final proof), because of its many and varied manifestations. *Encephalitis* must be ruled out.

It would be enlightening if the author would present the data he seems to have withheld.

Solution by Dr. McKinley

This patient had chorea, joint swellings, and rheumatism at thirteen years of age, and was sick one year.

The roentgen-ray report showed the heart increased in size in all diameters, extending further to the right than normal (hypertrophy), the size and shape being such as is often typical of the sequellae of rheumatic fever.

Positive blood cultures (streptococcus) gave evidence of sepsis.

An autopsy was obtained, and the pathologist's report showed: (1) Chronic endocarditis, with subacute bacterial endocarditis engrafted upon an infected mitral valve; (2) pericarditis; (3) hypertrophy and dilatation of the heart; (4) mitral regurgitation.

Problem No. 11 (Medical)

Presented by R. L. Gorrell, M.D., Clarion, Iowa

A HEALTHY baby was delivered with forceps by the attending physician. The forceps blades made slight lacerations on the infant's cheek.

On the second day after delivery, a nurse noted that there was slight bloody oozing from the laceration. The physician paid little attention to it until a number of hours had passed. Several intramuscular injections of the father's whole blood then failed to check the oozing. Sudden collapse and death occurred as preparations were being made for a transfusion.

The mother had been in good health and there was no sign of a pathologic condition in the baby.

Requirements: State your diagnosis and what you would have done in such a case.

Diagnostic Pointers

X-Ray Diagnosis of Pneumonia

● A well-performed, careful physical examination of the chest will fail to reveal many pneumonias which can be detected by an early roentgenogram. An ill-defined patch or zone of haziness is the first x-ray sign of pneumonia. This area gradually increases in size and darkness of the shadow as the disease progresses. Within from 3 to 4 weeks after the onset of illness, all traces of penumonia have disappeared from the films. The lower lobes are affected in the great majority of cases. Occasionally, a pneumonic consolidation may be concealed behind the heart shadow, early in the course of the disease.—L. R. Cole, M.D., *in Ann. Int. Med.*, June, 1941.

[Dr. Rigler, x-ray chief at the University of Minnesota, believes that chest roentgenograms should be sufficiently black so that one can almost "see" through the heart shadow, and thus identify any cloudiness in the lung tissue behind it.—R.L.G.]

Sinusitis in Children

● The child whose nose is constantly running may readily be suspected of having chronic sinusitis; the youngster who is *persistently sniffing*, is probably snuffing the purulent secretion back into his throat.—Austin Furniss, L.R.C.P., in *Brit. J. Phys. Med.*, Feb., 1941.

Coronary Thrombosis and Pneumothorax

● A spontaneous pneumothorax often results in pain which is identical with that of acute coronary thrombosis. Careful chest examination is necessary to rule out pneumothorax; a chest roentgenogram readily indicates the collapsed lung.—J. Weinstein, M.D., in *Med. Rec.*, Jan. 1, 1941.

Impetigo

● Impetigo may appear as *thick, yellow, "stuck on" crusts*, when caused by streptococci, or as *vesicles* which gradually enlarge up to 1 or 2 inches in diameter, when caused by staphylococci. If the infection penetrates deeply, ulceration takes place and dirty brown crusts appear which cover small amounts of pus (ecthyma). *Treatment:* All crusts must be removed before treatment is begun. The raw area should be painted with acriflavine, 1:1,000, or some other dye, twice daily. Deep lesions will leave scars.—A. C. Roxburgh, M.D , in *The Practitioner*, May, 1941.

The Common Cold

● *Coughs lasting more than 2 weeks are due to sinus infections, unless proved otherwise.*

Many children have frequent colds and hypertrophy of the lymphoid tissue on the posterior pharyngeal wall, which is an indication for small doses of iodine. If the membranes are particularly soft and swollen, ¼ or ½ grain of thyroid extract is given, with 1 or 2 grains of iodine, daily.

Two tablespoonfuls of strained honey, with the juice of half a lemon in a glass of hot water, sipped at bed time, is an ideal drink in the treatment of colds.—J. L. Hamner, M.D., in *South. Med. & Surg.*, Mar., 1941.

Sinus Infections

● General malaise, loss of weight, cough, and mild evening fever may be due to an almost symptomless infection of the sinuses, especially in children, and the diagnosis may be made only after careful clinical and x-ray study. The usual symptoms are frequent nasal colds, more especially a postnasal discharge, which is often overlooked. The nasal mucosa is inflamed. Roentgenograms show a thickening or infiltration of the sinuses. Intractable bronchitis or early bronchiectasis in children is often promptly cured by conservative treatment of the sinus infection.—G. M. Coates, M.D., in *N.Y.S.J.M.*, Feb. 15, 1941.

Sore Throat

● Every patient with a sore throat should have a red and white blood-cell count made. *Agranulocytosis* or *leukemia* may thus be diagnosed. Recurrent sore throats, not due to *tonsillitis* or *ethmoid sinus* infection, may be due to *diabetes* or *nephritis*.—G. M. Coates, M.D., in *N.Y.S.J.M.*, Feb. 15, 1941.

Objective Diagnosis of Heart Disease

● A diagnosis of heart disease may be *confidently* made if one or more of these signs are present:

1. Enlargement of the heart or aorta.
2. Rhythm disorders (auricular fibrillation or flutter; gallop rhythm; pulsus alternans; heart block).
3. A diastolic murmur or thrill.
4. Generalized or aortic and coronary arterial sclerosis.
5. Chronic, persistent high blood pressure or a general venous pressure increase.

It must not be forgotten that every symptom of heart disease may be produced by some other condition.—G. R. Hermann, M.D., in "Diseases of the Heart and Arteries." (C. V. Mosby Co., Publishers).

Thumbnail Therapeutics

Sulfathiazole in Chronic Sinusitis

● The predominating organism causing chronic sinusitis is a staphylococcus. A 5-percent solution of the sodium salt of sulfathiazole is sprayed into the nose twice daily. Fresh solutions must be prepared every few weeks. Chronic sinusitis and otitis caused by a staphylococcus are almost uniformly helped.—F. M. TURNBULL, M.D., in *J.A.M.A.*, Apr. 26, 1941.

Convulsions

● A convulsion, in an infant or young child, at the onset of a febrile disease, is usually the equivalent of a chill in an adult. A tepid, cool, or even cold pack is indicated, until the fever is reduced to a safe point. Only one or two thicknesses of sheet should be used, so as to obtain cooling by evaporation. Two (2) grains of acetylsalicylic acid for each year of age (in heavy syrup) may have the same effect. If the convulsion persists, chloroform or Avertin may be given. Periodic convulsions usually indicate rickets and require antirachitic treatment. Convulsions in older children usually mean idiopathic epilepsy, although other organic brain diseases must be excluded.—J. BRENNEMAN, M.D., in *J.A.M.A.*, Mar. 16, 1940.

Cramping Pain

● The cramping pains produced by spasms of smooth muscle are best relieved by *small* doses of quinine, combined with *small* quantities of two or three analgesics, such as aspirin (acetosal), acetphenetidin, amidopyrin, etc. (for their synergistic effect), and repeated at *short intervals* until the pain subsides.—ROBERT B. LEWY, M.D., before Miss. Val. Med. Soc., Oct. 2, 1941.

Tonic Ultraviolet Rays

● Ultraviolet irradiation of the entire body is an efficient general tonic and stimulant.—*Brit. J. Phys. Med.*, Feb., 1941.

Sulfonamides and Diphtheria

● Experiments in the laboratory and on human patients indicate that sulfapyridine and sulfanilamide have no effect on diphtheria bacilli.—J. F. MURRAY, M.D., in *South African J. Med. Sci.*, Oct., 1940.

[Several physicians have mentioned that they have been giving one of the sulfonamide group to every patient with pharyngitis, in the mistaken belief that it would be effective against all types of throat infections.—R.L.G.]

Spasmodic Croup

● A young child wakes up with a brassy cough, soon followed by stridulous breathing and respiratory obstruction, which is usually quite readily relieved by inhalations of steam, in a warm room. Syrup of ipecac is an effective remedy (dose ¼ to 1 teaspoonful—1 to 4 cc.), repeated if necessary).—J. BRENNEMAN, M.D., in *J.A.M.A.*, Mar. 16, 1940.

Vitamin C in Infections

● In the presence of infections, vitamin C is rapidly destroyed. The more fulminating the acute infection, or the longer the chronic one has persisted, the more vitamin C is needed.—FRED H. ALBEE, M.D., in *J. Internat. Coll. Surg.*, Oct., 1940.

Morphine for Chills

● The *intravenous* administration of morphine quickly controls severe chills.—LOUIS BISHOP, M.D., in *N. Y. S. J. Med.*, Apr. 15, 1941.

Vitamin Deficiency

● A mixture of 25 percent dried brewer's yeast powder, 67 percent peanut butter, and 8 percent peanut oil, which can be made up anywhere, is effective in improving the health of the person with subclinical deficiency diseases, and prevents their recurrence. This compound contains as much carbohydrate as potatoes, more protein than steak, and one half as much fat as butter. Two ounces are taken daily.—T. D. SPIES, M.D., in *South. Med. J.*, Feb., 1941.

Bone Atrophy Following Injury

● Sudeck's acute bone atrophy is characterized by pain, swelling, coldness, cyanosis, and tenderness of the part distal to the injury, and a smooth, shiny skin. It appears following injury, not necessarily a fracture. *Treatment:* Physical therapy measures, 4 to 8 x-ray treatments (50 to 100 *r*) on alternate days or, finally, periarterial sympathectomy.—*Med. Annals Dist. Col.*, July, 1941.

Bile Salts and Bile Acids

● Bile acids, given therapeutically, produce *thin* bile; bile salts, *thick* bile. Remember this in prescribing.—JAMES P. SIMONDS, M.D., Chicago, Ill.

THE DOCTOR'S STUDY

New Books

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE, Waukegan, Ill., is accompanied by a check for the published price of the book.

Literature is the garden of wisdom.—JAMES ELLIS.

Stethoscopic Heart Records

Geckler

STETHOSCOPIC HEART RECORDS: A Phonographic Recording of Normal and Pathologic Heart Sounds. *By* GEORGE D. GECKLER, M.D., *New York: the Columbia Recording Corporation. 1941. Price, $12.75.*

THE first step in diagnosing a case of organic heart disease is to determine *exactly* the location, timing, and character of the murmurs heard. But since the average general clinician sees such cases rather rarely, his memory of the distinctive characteristics of these abnormal sounds may become a bit hazy as the years pass, and to refresh it he would formerly have had to spend at least a day or two in some large heart clinic, listening to the hearts of a considerable number of patients.

That is no longer the case, for with this unique set of phonograph records he can sit quietly in his office and hear, *through his stethoscope*, in half an hour and in their normal clinical intensity, all the ordinary types of heart murmurs and arrhythmias, briefly described by a competent teacher and frequently compared with normal heart sounds, and can *repeat* this experience as frequently and exhaustively as he desires. Moreover, he can use these records for *reference*, comparing them with sounds he has heard in the chests of his actual patients.

The set consists of six 12-inch teaching records, with descriptions and comparisons, and a seventh on which are recorded, separately, the normal and seven types of pathologic sounds without comment, so that the physician can test, from time to time, his own acuteness of hearing and diagnostic acumen. The records are inclosed in a handsome and durable case, with detailed suggestions for using them printed inside the front cover.

This is such an astonishingly inexpensive *postgraduate course in heart disorders* that no active clinician can afford to deny himself the benefits he can gain from its intelligent use.

Diseases of the Chest

Davidson

A PRACTICAL MANUAL OF DISEASES OF THE CHEST. *By* MAURICE DAVIDSON, M.A., M.D., *Oxon., F.R.C.P.Lond., Physician to the Brompton Hospital for Consumption and Diseases of the Chest; Sometime Dean of the Brompton Hospital Medical School; etc. Second Edition. London: Oxford University Press, Humphrey Milford. 1941. Price, $13.50.*

THIS book presents the facts which need to be known by the physician who wishes to give modern care to his patients with diseases of the chest. It is unusual, in that the long pages of obsolete signs and symptoms have been deleted; that emphasis has been laid on essentials in diagnosis; and that treatment has been described in detail, so that it can be readily applied.

The illustrations of the entire respiratory tract, from the nose down to the lung tissue, are excellent. X-ray illustrations, where used, are sharp and well selected. No roentgenograms are shown in the chapters on pneumonia, although Rigler's work has showed that it is possible to diagnose pneumonia within from 12 to 18 hours of the onset by a simple chest plate, taken with a portable machine.

The description and illustrations of the postural treatment of bronchiectasis and chronic bronchitis are complete and of great practical value.

Psychopathic Personality

(Semantic Dementia)

Cleckley

THE MASK OF SANITY: An Attempt to Reinterpret the Socalled Psychopathic Personality. *By* HERVEY CLECKLEY, B.S., B.A. *(Oxon.)*, M.D., *Professor of Neuropsychiatry, University of Georgia School of Medicine, Augusta, Ga. St. Louis: The C. V. Mosby Co. 1941. Price, $3.00.*

OUT of the large and heterogeneous group of mental alienations, not definitely classifiable as psychoses and, therefore, not considered as grounds for legally committing a patient to a mental hospital (though some of them need such care and restraint as badly as most schizophrenics do), Dr. Cleckley has segregated and described in detail a type of cases which he firmly believes (and justifies his belief) should be considered definitely psychotic, and treated as such.

He calls this malady *semantic dementia*, because, in these patients, although the strictly intellectual faculties *appear* to be as active and sound as anyone's (the "Mask of Sanity"), the mind or personality is so damaged that experience *as a whole* cannot be grasped or utilized in its *significance* or meaning.

In order to illustrate his thesis, Dr. Cleckley recites, at length, the social as well as the medical histories of 9 patients suffering from this malady in its full-blown form (most astonishing stories!) and of 6 more, including a general clinician and a psychiatrist, in whom this personality disturbance did not wholly incapacitate the sufferers for a useful social life, though their behavior was sufficiently remarkable. Nowhere else, to the reviewer's knowledge, can a similar group of case records be found.

On the basis of a large amount of material, of which these cases are typical, and of an exhaustive review of the literature, Dr. Cleckley presents the composite clinical picture and outlines the differential diagnosis from the presently recognized psychoses, psychoneuroses, mental defects, ordinary criminal tendencies, and other more or less similar disorders. The job is so well and thoroughly done that it carries conviction.

In view of the fact that the Doctor believes (on sound evidence) that about 25 percent of all the psychotics in this country belong in this group, no whole- or part-time psychiatrist can *afford* to overlook this significant piece of work. And because almost all of these patients are first seen by general practitioners, it is of great importance that all clinicians should be sufficiently informed about this disorder to recognize it when encountered. The style of his writing puts it within the reach of all physicians.

Sexual Pathology

Hirschfield

SEXUAL PATHOLOGY: A Study of the Derangements of the Sexual Instinct. *By* MAGNUS HIRSCHFIELD, M.D., *Author of Sexual Knowledge, The World Journeys of a Sexologist, et cetera; Former President, World League for Sexual Reform; Director, Institute of Sexual Science. New York: Emerson Books. 1940. Price, $2.95.*

THIS is a revised edition of a work which first appeared in 1932. The author has been interested in sexual psychology for many years, and the book contains many case histories, which make his statements more intelligible. The first section concerns sexual symbolism in its varied manifestations; the second, hypererotic ism; and the third, impotence. Suggestions for treatment are included.

Sex plays a part in all of our lives, and many patients have troubles due to sexual maladjustment, but most physicians do not know enough about the subject to discover such difficulties or treat them, if found.

Roentgen Interpretation

Holmes and Ruggles

ROENTGEN INTERPRETATION. *By* GEORGE W. HOLMES, M.D., *Roentgenologist to the Massachusetts General Hospital and Clinical Professor of Roentgenology, Harvard Medical School, and* HOWARD E. RUGGLES, M.D., *Late Roentgenologist to the University of California Hospital and Clinical Professor of Roentgenology, University of California Medical School. Sixth Edition. Philadelphia: Lea & Febiger. 1941. Price, $5.00.*

A ROENTGENOGRAM is of little or no value unless it is correctly interpreted, and here is a book that makes this possible. It is clear and concise, and its brevity makes possible the inclusion of many illustrations and descriptions which cover the chief pathologic conditions of every part of the body where the x-rays can be used in diagnosis. It indicates how many pathologic processes may be revealed by the x-rays, such as fractures, dislocations, bone infections, tumors, and nutritional changes, and examines each of the parts in which the x-rays may be used —the skull, spine, joints, chest, gastro-intestinal and genito-urinary tracts. Line drawings, as well as roentgenograms, illustrate various lesions and deformities. The pitfalls of roentgen diagnosis, the confusing shadows and artefacts are pointed out, with suggestions for their differentiation. Even the experienced roentgenologist should feel more secure with this book at hand, and to the beginner and the student it is indispensable.

General Surgery

Ritchie

ESSENTIALS OF GENERAL SURGERY. *By* WALLACE P. RITCHIE, M.D., *Clinical Assistant Professor, Department of Surgery, University of Minnesota Medical School. 322 illustrations. St. Louis: The C. V. Mosby Company. 1941. Price $3.50.*

THIS is a workmanlike book which presents the important points of surgery, summarized so that the physician or student can quickly grasp the important topics. No attempt is made to prolong the text with discussions or rarely encountered diseases, nor with details of surgical technic. Many points on treatment and diagnosis are given in outline form. Students are especially cautioned that x-ray changes in *acute osteomyelitis* cannot be expected for 14 days—a fact apparently not known by some leading internists.

The presentation, while concise, is not hurried or incomplete, as it is in the small handbooks and quiz compends. There are many illustrations, including reproductions of roentgenograms.

The Foot and Ankle

Lewin

THE FOOT AND ANKLE: Their Injuries, Diseases, Deformities and Disabilities, With Special Application to Military Science. *By* PHILIP LEWIN, M.D., F.A.C.S., *Associate Professor of Bone and Joint Surgery, Northwestern University Medical School; Professor of Orthopedic Surgery, Post-Graduate Medical School of Cook County Hospital, et cetera. Second Edition. Philadelphia: Lea and Febiger. 1941. Price, $9.00.*

THIS is a workmanlike presentation of the affections involving the foot and ankle. Unlike many orthopedists, whose sole concern is for the rigid supporting and acting structures, the author considers the effect on the foot of peripheral arterial disease, neurologic lesions, skin diseases, deficiency, and glandular diseases.

Fractures, dislocations, flat foot, claw foot, bunions, and the other traumatic conditions are well discussed. The numerous illustrations, both photographic and sketched, are clear and show many practical points.

Nutrition Primer

Sense

AMERICA'S NUTRITION PRIMER. *By* ELEANORA SENSE. *New York: M. Barrows and Company. 1941. Price, $1.00.*

THERE is no longer any excuse for the housewife who can read and who has even a very modest budget for living expenses, if she gives her family a lopsided diet, because this "Primer" (which is just what the name implies) will give her all the information necessary to plan a well-balanced diet at modest expense, written by an expert in a style that can be understood by any eighth-grade pupil, and from the standpoint of the woman who feeds her family. Specimen menus, simple recipes, and a vitamin chart are included.

This attractive little book should be in every home in the country, and will make an excellent Christmas gift for young wives. Physicians who do not own one of the more extensive and technical works on dietetics can learn many profitable lessons from it themselves, and all of them can heartily recommend it to their patients and friends. The price is so modest that no family need be without it.

Fractures

Perkins

FRACTURES. *By* GEORGE PERKINS, *M.C., M.Ch., Oxon., F.R.C.S., Assistant Orthopedic Surgeon to St. Thomas's Hospital. London: Humphrey Milford, Oxford University Press. 1941. Price, $6.50.*

THIS text gives a description and sketches of every fracture which may be encountered. The illustrations emphasize the lines and angles which must be restored to normal. The management of bony injuries is well described, but soft part injury is dismissed with 3 pages and physical therapy is not discussed at all. The sketches showing methods of reducing fractures are excellent. If more attention were paid to measures for restoring muscles, tendons, and joints to activity, this book could be recommended as a complete text for the general surgeon.

Physician's Accounting

Colwell

DR. COLWELL'S DAILY LOG FOR PHYSICIANS FOR 1942. A Brief, Simple Accurate Financial Record for the Physician's Desk. *Champaign, Ill.; The Colwell Publishing Company. 1941. Price, $6.00.*

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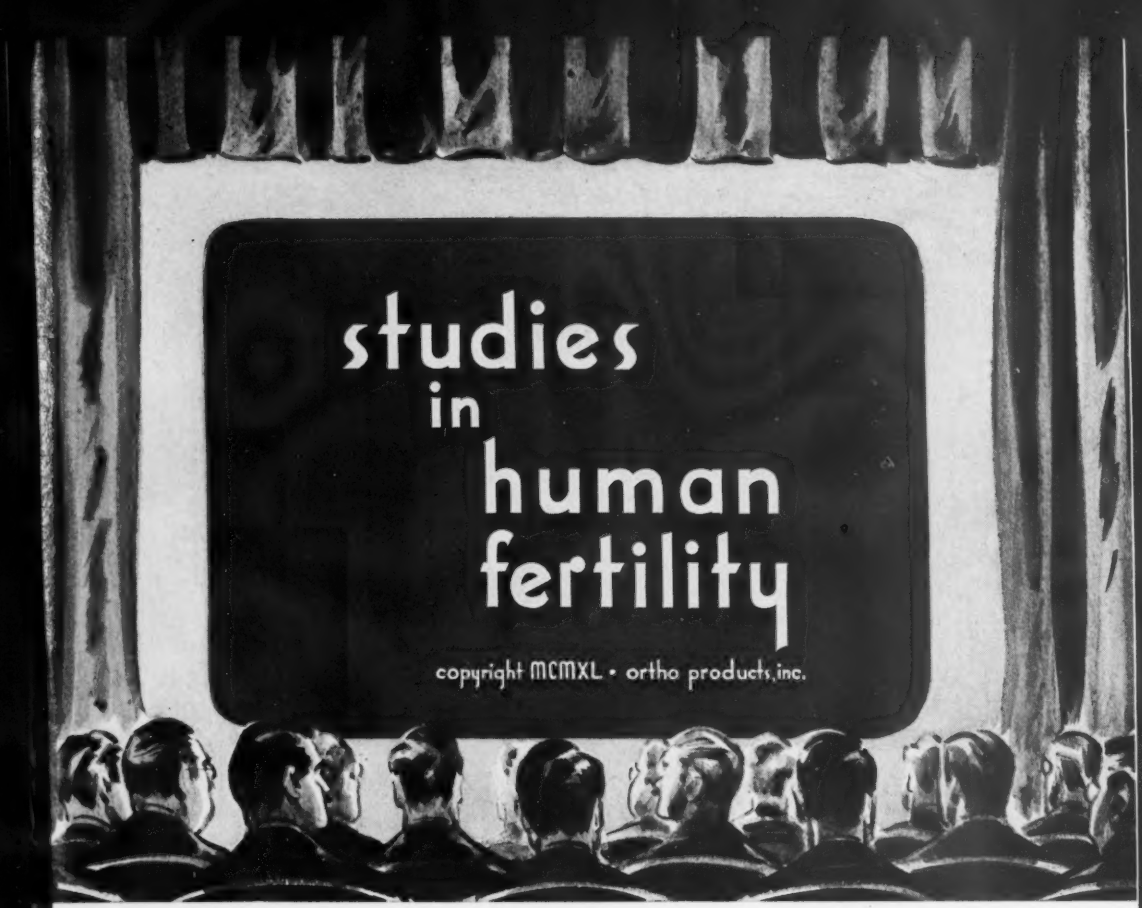
J. E. P.



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[1] Greene, R. R., J. Clin. Endocrin., 1, 559, July, 1941.

[2] Freed, S. Chas., Recent Progress in Estrogen Therapy, Meeting of the Illinois State Medical Soc., May 20, 1941, Chicago.

* Trade Mark Reg. U. S. Pat. Off. Word "Di-Ovocylin" identifies the product as α-estradiol dipropionate of Ciba's manufacture.

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